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OF the two nightmares defining this past year one, Trump, has mercifully gone. But has our experience of the other, Covid-19, given us some grounds for renewed optimism regarding the potentially make-or-break Conference of the Parties (COP) meeting on climate change in Glasgow, postponed due to Covid until next year? In this issue we focus on the role that scientists are playing in achieving policy change in preparing for Glasgow.

The UK government's mantra in its handling of the pandemic has been: Follow the Science. We have yet to get a clear picture of the explanations for the UK's world-leading failures in this regard—e.g. the extraordinarily high death rates despite all the advantages available to us in terms of resources, expertise and supposed preparedness, alongside the respected international standing of its scientists—but the 'scientific community' may turn out to carry much of the responsibility. It seems possible that the failures in policy-making were a consequence of inadequacies in the scientific community's ability to convey a coherent view to government.

Waiting for Glasgow

In part this would appear to be the result of the indirectness of the filtering of advice through multiple layers of committees, in part the exposure of the views of so many and often contradictory specialists, egged on by the frenetic media. The superlative and carefully planned research efforts being carried out behind the scenes in Oxford and elsewhere were lost in the noise. By the time the confused and conflicting welter of opinions had reached the Prime Minister one shudders to think what he—with

an Upper Second in Classics—understood about the force or the implications of the evidence.

Whereas the hazards in the employment of scientific evidence and advice have been shown up under the immediacy of the challenge of the virus, in the case of climate change matters could not be more different. Following on from many years of considered documentation by the UN's Intergovernmental Panel on Climate Change (IPCC) there is effectively total unanimity across the scientific community on the facts and on the urgency concerning the threat posed by the climate emergency.

Oxford Magazine publication arrangements

We are unable to publish the *Oxford Magazine* in print for the foreseeable future, as a result of COVID19-related working restrictions. Arrangements for archival copies will be made at a later date.

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INSIDE

SPECIAL ISSUE ON CLIMATE CHANGE

But can one say that the scientific community has done all that is required of it, even in this case?

The scientists' involvement in climate change shares with Covid the problems arising in translating the scientific evidence into government policy and public support. Can one realistically expect the predominantly humanities-educated politicians—and journalists—to fully understand the evidence given them by the technical experts such that they can link this to the best-informed policy decisions? And if, moreover, the best decisions require serious changes in our ways of life how can a reluctant and conspiracy theory-prone public be persuaded to comply? The fuel depot blockades in September 2000, when fuel prices had become the highest in Europe, led to panic buying, rapid swings in public opinion and ultimately to a government retreat as automatic annual fuel tax increases were suspended.

According to the traditional view, scientists, and indeed academics generally, seek to avoid direct involvement in translating their work into policy on the grounds that the ideals of dispassionate research require them to conceal their personal value systems and to stick to the facts. But what if they are uniquely in possession of the knowledge and understanding that means that they alone can appreciate the full implications—as in this case, of the climate crisis? Surely then they have a responsibility to use every means possible to try to influence policy.

How successful has the scientific community been in the past in influencing government policy? One thinks of obvious successes such as the banning of aerosols to prevent atmospheric ozone depletion or the recognition of the ecological damage due to DDT. Scientific advice has clearly dictated government policy, for example, on the recent Foot and Mouth epidemic, BSE, AIDS, seat belts and tobacco. On the other hand, senior atomic scientists petitioned President Truman against building nuclear weapons. At the 1975 Asilomar gathering, in the early days of recombinant DNA technology, leading biologists were split when considering a moratorium on further research. Where the scientific issues impinge on broad and fundamental political positions and where the implications for the public become increasingly restrictive—as in the case of climate change—the input of the scientists is just one among many contending considerations.

We can perhaps draw lessons from Covid on the role and responsibilities of scientists in the case of climate

change. It has become clear that difficulties in implementing policy during Covid stem crucially from loss of public trust in politicians, the media and “experts” generally, which includes scientists. The UK government—as with many Western countries and, arguably, in contrast to many Asian countries—has taken the view that individual liberties and choices are important to retain. But with those rights goes responsibility and responsible responses to Covid or climate change can ultimately only be based on the public's acceptance of the expert advice. Not only, it can be argued, do scientists have a duty to reach out from the safety of their laboratories and to join campaigns such as Extinction Rebellion but they also need to present a coherent, unwavering and suitably persuasive argument before the public.

The consequential restructuring of our economy after Covid presents an ideal opportunity to direct—and hide—inevitable tax rises and redistributions in ways that support the green agenda. Providing the public with the rationale for unwelcome policies must, and can only, come from the experts: governments are, by definition, partisan. Moreover the spokes-person or persons for the scientific community must be suitably influential in the eyes of all sections of the public. Perhaps we need Marcus Rashford to join David Attenborough to combine forces in this cause.

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Meanwhile, an update on the *Magazine's* new scheme for inviting questions from staff members on matters of concern to them for forwarding to Wellington Square for authoritative answers. So far we have forwarded three questions. As yet we have received no answers, nor even any acknowledgements.

Questions and answers will be published in our new Q&A column as soon as possible; answers will be forwarded to questioners themselves as soon as they are received. We remind readers that their names will only be revealed to Wellington Square or published in the Q&A column with their prior agreement, in order to allow greater freedom for staff to raise controversial or sensitive issues with safety.

Please send us your questions.

B.B, T.J.H

Climate science, truth, and democracy

The following extracts are taken from an essay by Evelyn Fox Keller, Professor Emerita of the History and Philosophy of Science at MIT (Studies in History and Philosophy of Biological and Biomedical Sciences, 64 (2017) 106-122) – eds

An impasse of credibility currently prevails in the US around the issues of climate change that threatens to paralyze citizens and experts alike. Confidence in the expertise of scientists is at an all time low, with much of the internet, radio talk shows, and popular television deluged with challenges to the credibility and trustworthiness of climate scientists. In an effort to adhere to their traditional ethic of “balance,” even our most prestige newspapers and journals have contributed to the confusion by spreading the widespread misimpression that climate scientists are deeply divided about both the extent of the dangers we face and the relevance of human activity to global warming. Not knowing who or what to believe, the natural response for most people is to do nothing.

Meanwhile, evidence of the seriousness of the problem continues to mount, as does the apprehension of so many climate scientists. Yet notwithstanding their concern, most of these have been reluctant to weigh in on (often acrimonious) public debates, instead seeking recourse in the particular authority granted them by “peer review.” Their concern is two-fold: first, anxiety about overstepping the traditionally accepted boundary between science and politics, and second (and closely related), fear that going beyond the reach of peer review would undermine their scientific credibility. The consequence is that the debate that rages in the public domain goes largely unchecked for intellectual or scientific reliability, and even the most discerning of non-expert readers are left without any basis for assessing the costs of continuing inaction.

Expert predictions imply costs that few if any of us would be willing to accept, yet a pervasive atmosphere of skepticism drains these warnings of virtually all effective force. What makes the situation particularly dire is that, living as we do in a democratic state, the very possibility of putting the efforts of our scientists to beneficial use depends on the response of a public willing and able to take their warnings seriously. Furthermore, given the critical role of the US in what is unavoidably a global issue, what is an impasse for the US is also an impasse for the world. The questions I want to pose are therefore of two kinds: First, on what basis can lay readers decide who and what to believe? And how does the answer to this question affect their ability to responsibly participate in policy decisions that depend on expertise they do not share? Second, what are the nature and limits of the climate scientist’s particular responsibility in this current political and social situation? More specifically, what role ought experts play in the world beyond their particular expertise when their findings have the dramatic social and material consequences for that larger world that follow from the findings of climate scientists?...

Kitcher’s recommendation [that where scientific opinions differ recognized experts might (respectfully) “tutor” each other by providing relevant information] merit seri-

ous attention, but by invoking expertise to ‘tutor’ lay participants, he leaves unresolved the fundamental dilemma that many feel expertise poses for a liberal democracy. For example, Stephen Turner, a political philosopher, writes:

“In the face of expertise, something has to give: either the idea of government by generally intelligible discussion, or the idea that there is a genuine knowledge that is known to a few, but not generally intelligible”

“In a situation involving large complexity, radical uncertainty and high stakes, new scientific practices to ensure quality control have to be established. This encompasses a re-orientation of science toward incorporating multiple stakeholders. Peer review should include ‘extended peer communities’ in order to enhance dialogue between stakeholders such as the NGOs, industry, public, and the media” (Karin Backstrand, 2003).

But once again, the question of expertise remains. If we accept that there is such a thing as expertise (invoking the definition given by the OED as “one whose special knowledge or skill causes him to be regarded as an authority”), what is its place in deliberations among different stakeholders? How are we to adjudicate, to draw the distinction, either between legitimate and illegitimate criticism, or between knowledge and interests?

These may seem like abstract considerations, and as presented here, they are far too general for my purposes. The problems of expertise in a democratic society depend (and inevitably so) both on the specific kind of expertise entailed and on the implications of that expertise. That they come home to roost with such immediacy and urgency in the arena of climate science derives from the particular character of this science and from the particular implications its claims have for us. Indeed, it is precisely because of the implications of climate research that the distinction between legitimate and illegitimate criticism of scientific claims about climate change has become so intensely politicized. Yet, at the same time, it is also because of the magnitude of what is at stake that this is just the distinction that we must, somehow, find a way to draw. I take it as obvious that we cannot do so without the help of expert knowledge, without relying on expertise that most of us do not ourselves have. But at the same time, we need to think about how much expertise is required for legitimate criticism, about what ought to count as expertise, and about why it is trustworthy. As Sheila Jasanoff reminds us, “Contemporary democracies depend for their robustness, not to say their very survival, on the wisdom of strangers.” How do we know which strangers to trust? Their expertise—i.e., their special knowledge or skill, their experience and training—is surely part of the answer, but Jasanoff also reminds us that “As members of a democracy, we trust experts because they supposedly represent our interests and are accountable to us, but we need to evaluate the basis for that trust from time to time”

Alarming as [the predictions regarding climate change] may seem, however, they are still relatively abstract—i.e., apart from scenarios so catastrophic as to imply the end of human civilization, the figures produced by climate projections have still not been translated into human costs.

The more extreme scenarios are not much discussed by climate scientists, precisely because the risks are so hard to estimate, but even in discussions of less catastrophic scenarios where probabilities can be estimated by computer models, it is rare to see such probabilities translated into human costs. What in fact would a 2C (or 4C or 5C) rise in average surface temperature mean for human lives? What would it mean not only for us in temperate climates, but for those living in less temperate climates? Perhaps more to the point, what would it mean for our children and grandchildren? To be sure, answering such questions requires going beyond the expertise of climate scientists, but I will argue later that climate scientists, if they are to be accountable to the public that supports them, must bear a responsibility in seeing that the relevant expertise is recruited. Indeed, I will argue that ensuring the translation of their findings into human costs is a basic part of their responsibility as scientists....

No scientific analysis is immune to uncertainty, but the ways in which uncertainty enters the analytic process multiply dramatically with the complexity of the problem under study. As everyone knows, climate change is an especially complex phenomenon and even after decades of study, our understanding remains far from complete. Climate is the product of a large number of variables interacting over long time periods in extremely complex ways. Efforts to understand this process—to determine what variables are most important and how they interact—depend both on empirical measurements of the relevant variables and on models of the physical dynamics governing their interaction, with constant exchange between the two activities. With recognition of the role that human activity may be playing in these processes, the task has become yet further complicated by the need to also include in these models estimates of both our past and future behavior, along with the effects of this behavior. It goes without saying that the enormous complexity of these models means that they can be analyzed only by very large computers, but once formulated and analyzed, compared with available data and then reformulated and re-analyzed, they can be used to help us to better understand past, present, and future climates. The knowledge thus acquired is far from complete but it is the best that climate scientists have so far been able to achieve; similarly, the predictions this knowledge makes possible are a far cry from certain, but they give us our best shot at anticipating the future. They do not tell us what will happen, but they can provide us with estimates of what, under various scenarios, the future climate is likely to have in store for us, and with what odds.

Lay readers expecting definite answers from science are bound to be disappointed, but not so the scientists who work on such problems. Like most working scientists (mathematicians aside), climate scientists well recognize that they are not in the business of providing either proof or certainty. Even when informally invoking the language of truth to refer to their most robust findings, they by and large recognize that way of speaking as a shortcut for claiming evidence strong enough to warrant the working assumption of truth. Needless to say, judgment of just how strong the evidence needs to be for this purpose will vary, and there is ample room for debate. But the hope is that, as the evidence grows stronger, consensus can be achieved. That is, that there will come a point at which the community as a whole at least provisionally

agrees to accept the theories and claims in question, and move on to the questions that follow from those theories and claims. In fact, such a point must exist if the work is to proceed; failing the achievement of such consensus, the research program will eventually just fizzle out. But the main point for the purposes of this discussion is that, while scientists generally recognize that the history of science leaves no room for absolute certainty, they are not bothered by this lack; their confidence in their ability to contribute to the overall progress of scientific knowledge does not depend on total certainty. It suffices to be pretty certain; indeed, in informal discourse, near certainty is sometimes taken to qualify as ‘proof’, but when it is so taken, it needs to be understood that the notion of proof invoked in such discussions is more accurately a notion of “sufficient proof”. Nor, for that matter, do they require complete consensus; for most purposes, almost complete consensus serves well enough. In other words, the ideals of democracy play a crucial role within the boundaries of a scientific community: the practices of open deliberation, collective criticism, and peer review all work toward the resolution of disagreements. These same practices are also called upon to bolster the power and influence of the majority scientific judgment in the world at large.

By contrast to their internal workings, scientific authority is frankly elitist in its relation to outsiders to a disciplinary community: the right to criticize is generally limited to those who have sufficient training and research experience to evaluate the relevant evidence and arguments—i.e., to members of their own communities, their peers....

What so worries these scientists is the magnitude and seriousness of the implications of their findings should they be right. No one knows how bad things could get—how hot, how inundated, how drought-stricken, how unstable. Nor can anyone say whether the cost in human lives by the end of the century, should we fail to act now, is likely to be in the tens or hundreds of millions (or even billions). We only know that the most likely consequences of inaction would be horrendous. Maybe they will never come to pass, but the question is, how large a risk are we willing to tolerate?

But there is also another issue: The magnitude of the potential consequences of inaction are of an order that requires us to draw a distinction of vital importance between climate science and other familiar clashes between science and politics that are sometimes invoked as parallels—evolutionary theory, e.g.; or theories of planetary motion; or even breast cancer. Or, to put it another way, it is the more general relation between truth and consequences that sets climate science apart from so many past public controversies over scientific claims, and that so acutely exacerbates the tensions between expertise and democracy....

The novelty of the Chamber’s petition [a petition filed in 2009 by the U.S. Chamber of Commerce—representing 3 million businesses—objecting to regulation of greenhouse gases as proposed by the Environmental Protection Agency] is the proposal to delegate judgment of the truth-value of a scientific claim to a public tribunal or jury. One might say that it is not only climate science that is to be put on trial, but the more general (and until now, widely accepted) claim of the scientific community (more specifically, of scientists with the relevant expertise) to the authority for determining the facticity or truth-value of

scientific assertions. If the implicit aim of Galileo's trial (and of the prosecution of Scopes) was to maintain the independent (and higher) authority of Scriptural truth, the assumption underlying the Chamber's petition is that the traditional authority of scientists over the status of scientific truth can and should defer to the authority of a public tribunal.

Such a trial will probably never occur, yet the mere fact of its being proposed is surely unsettling. It presupposes a public that might consider such a procedure legitimate and indeed find it congenial; and that, I submit, is where much of both its novelty and significance reside. Further, I suggest that such a presupposition both reflects and trades on a growing tendency in American politics to put truth to popular vote. That tendency goes far beyond questions about climate change, but it may be most conspicuously evident in relation to these issues. Increasingly, questions about whether the earth is warming, and if so, about whether human activity has played a significant role in this warming, have been transformed into matters of debate to be conducted in the public arena, with scientists on one side, pitted against critics, skeptics, and deniers (or "contrarians") on the other side. And if we are to judge by the results of recent polls, it begins to appear that the scientists are losing the public debate....

However strongly we may argue for the importance of public participation in policy decisions, we cannot forget that participation—in any form—depends on belief. And not knowing who or what to believe, without any way of assessing the risks and costs of either action or inaction, the natural inclination of most people is to do nothing....

The view of scientific authority as resting exclusively on internal evaluation inevitably invites the temptation to refrain from directly confronting the challenge posed by contrarians in the public arena, and the inclination to remain within one's protected domain. But doing so leaves unaddressed the question of what is to be done about the free dissemination of misinformation. Furthermore, such an understanding of scientific authority raises a host of philosophical problems. Here however I want to focus on a conspicuously pragmatic problem: while it is true that the great majority of papers published in peer-reviewed journals support the conclusions of the IPCC, these journals are not read by the audience of readers that climate scientists most need to reach; in particular, they do not reach readers who are not themselves engaged in research on climate change. These audiences may vary greatly (from, e.g., readers of such high-brow journals as the *New York Review of Books* (NYRB) to bloggers and readers of *The Skeptics Handbook*). Despite the great differences among these audiences, they have one important feature in common, and that is their insulation from the professional literature. Indeed, it is precisely this insulation that permits the kind and degree of skepticism we have observed....

But it is with their special responsibilities as scientists that I am concerned here, and these go far beyond any concerns they might have about professional authority. I submit that they include, in addition, the responsibilities that derive from their implicit contract with the state that funds them. That contract makes the products of their labor a public good. Because it is a good which, at least initially, is under their own control, they need to bear responsibility for that good, at least for as long as it remains under their control. In other words, they are obliged to ensure safe de-

livery of the good they have produced into public hands. I am arguing, in short, that their responsibility, *qua* scientists, extends well beyond the issues of professional integrity that first come to mind for most scientists in relation to questions about scientific responsibility—far enough beyond that understanding to encompass the obligation to share the results of their expertise with those likely to be affected by the implications of those results.

How is this obligation to be discharged? And how can it be discharged without undermining the scientist's hard won claim to disinterested objectivity? Many scientists worry that any venturing out into the public domain, beyond the authorization of peer review, might in itself jeopardize their credibility and authority. To what extent is this a legitimate concern? And to the extent that it is, how might it be addressed? To answer these questions we have to return to the issue of on what a scientist's authority is based. I started out by accepting the prevailing view that it comes from the validation of a disciplinary community. But there is no obvious reason why such validation should automatically endow experts with authority in the world at large—i.e., with the public authority that seems now to be so woefully lacking, at least in the US. I want therefore to suggest that, seen from outside that community, the legitimation of their authority requires rather more. Unless I am willing to accept someone's authority on the basis of third party say-so, I need direct convincing. In the absence of technical expertise of my own, I need to be persuaded both of that person's honesty (or credibility) and of the cogency of his or her argument. Sheila Jasanoff describes the model of expert deliberation that is practiced in Germany as satisfying this need. There, she writes, "It is the expert body's rationale that must be, in German terms, *nachvollziehbar*, or capable of being followed by others. Reasons are compelling because all members of the public, wherever situated, can follow the expert body's reasoning, even if they do not accept its conclusions".

Within the scientist's own community, validation and respect is won on the basis of sound arguments and authenticated evidence. Why cannot these same considerations also legitimate authority outside their own community? Is technical expertise really necessary for educated readers to distinguish between good arguments and bad? Between carefully collected and well scrutinized evidence on the one hand and conspicuously flimsy evidence on the other? To improve public understanding, the standard response is increased science literacy. But I would argue that more to the point would be increased articulacy on the part of scientists—i.e., an increased effort on the part of scientists to make their arguments, their doubts, and the reasons for their concern intelligible even in the absence of technical expertise. Doing so is almost never as difficult as is generally assumed: disagreements and uncertainties are already familiar territory to most readers, and examples in which technical arguments are made accessible are similarly not hard to find. But effective communication also requires an ear for what readers need, and one thing they need is to be able to follow the process by which so many climate scientists have reached the conclusions they have, despite the limitations of their knowledge and the uncertainties of their projections. To be sure, the lay reader can generally not make the fine distinctions that a professionally trained reader can, but even so, he or she is quite capable of making the sorts of discrimination needed to establish trustworthiness.

In other words, I am arguing that, wherever the results of their work have direct impact on the public at large, scientists have a responsibility to engage with that public, providing a candid, widely accessible, and meaningful account of both their own findings and the implications of those findings, and responding to whatever concerns per-

sist. Furthermore, I see no reason why this responsibility need in any way conflict with scientists' responsibility to their peers, nor do I see any reason why they cannot draw on the authority they have established among their colleagues in establishing authority with a wider audience....

A Personal Place

La tristesse et la joie ont leur propre feuillage—Jules Supervielle

For J

i Looking for death

HESITANT dawnlight fingered arching
limbs of burdock, smoothed still-damp
rising cornspikes replete with summer.
A firebolt flashed across ravines
of heaped slate over heavy roses
loosely hung with pungent hop-vines
the prodigal crown of some impassioned
titan-princess pregnant with love.
A tear from your eye scalded my hand.
I did not plead; you turned your back
to stare long at the fresh-cut hay.
I said nothing but let you stand;
and nothing said, we took the path
staring ahead, looking for death.

ii Retreat

Peering through milky fumes that pall
the scoured sky, moistening dream-lace
drifts down to net the behemoth-squall
that bugles its rights. How without you
defy time's frown, denied your grace,
wanting your never waning spell?
You poured purity into a granite
heart, whose fault could never split
after such profit. *Locus felix*, my
focus of gravity, horn of fruition,
garner of plenitude, must you die,
what held us bound now break, no stronger
than wheat-stalks wound about my finger,
time's tuckets blare Retreat retreat?

iii Farewell and hail

No more on snow to fling your fire
when yet again the world-child's pang
cries out afresh, making eyes fill,
raise season-songs beneath the thatch
and catch a sudden fireball flung.
Comes the moment, no more is now,
this call to spill the balm you brought
when lucid sunrise bared its gleam.
Green and reserved you sipped each year
my acid dews, held all day calm
in your firm keeping each dented whole,
filled them with reason (lost with you),
till I leave weeping, lost without
you. Last wave of hand: farewell and hail.

iv Up and away

Pale face pressed against that window –
find out some other vein to feast on,
ripe with long need. Our ash cleaving
the horizon's grip, encircling acres
of flint-flecked clay, wind-baffling barley,
a pheasant's gross resentful clamour,
that weeping birch at pond's edge planted,
walnut and vine, impervious teasles,
the desolation of nettled ditches,
a night-owl's shriek shearing the silence,
hedge-tracery on a scar-pale heaven –
all we long looked for, now signed up for
time's terminal rate. Greet them and give them
up, and away. Up and away.

v Last word be mine

A shivering curve of sky-cupped hillock's
silk meadow-grass, our breeze-simmered river
festal with flags and spiry loosestrife,
the creams and browns of drinking cattle;
endless noon in the lap of summer
stilling a heart blind to oblivion.
Now rain engrosses our slow going,
slaps the windscreen, blinds the house-panes,
how can I clear my blurring lens,
this flurrying riot of human water?
Crystal of joy, you once delivered
prophetic cries from fleshy anguish;
keep quiet now in the rutty lane
as we pull apart; let the last word be *mine*.

CARL SCHMIDT

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Clarity on the Responsibility of Scientists

The following interview with John Holdren, Teresa and John Heinz Professor of Environmental Policy at the Harvard Kennedy School and head of the White House Office of Science and Technology Policy during the Obama administration, was published in the Harvard Gazette on 16th November 2020—eds

GAZETTE: In an era when everyone seems to have their own set of facts, how do you restore the public's faith that science really does know what it's talking about?

HOLDREN: There are a couple of dimensions to that. One is the role of the White House and the other is the role of the scientific community, including institutions like the [National] Academies of Science, Engineering, and Medicine, the American Association for the Advancement of Science, and the other professional societies.

It is tremendously important what attitude the president of the United States and the vice president take toward facts, toward science, and toward the use of science and facts in the formation of public policy. We had, with President Obama and Vice President [Joseph] Biden, a fact-friendly and science-savvy leadership. They appointed highly capable, nonideological people to the key science and technology positions across the administration. And that friendliness to facts and science propagated downward and interacted constructively with the inclinations of the career civil servants in the departments and agencies with science and technology responsibilities. Those inclinations have always been to use science and technology to advance the public interest.

That's what we need to restore under President-elect Biden and Vice President-elect [Kamala] Harris. I think it will be restored once they are inaugurated. But even before, they are already saying all the right things in the course of this somewhat freighted transition. You see President-elect Biden and Vice President-elect Harris talking very constructively about how they will bring science and technology to bear on advancing the national interest. For example, a new panel on COVID-19 that will be advising Biden and Harris on crafting a comprehensive national response, which we have lacked, has already been announced. The panel is bipartisan; it is diverse in terms of gender, in terms of political affiliation, in terms of geography; and above all, it is a collection of absolutely first-rate people. That is going to be the hallmark of what Biden and Harris do in office: They are going to appoint competent people. They are going to listen to them. They are going to interact closely with them. Their science and technology experts are going to be in the room and at the table for the many policy discussions where science and technology are germane.

GAZETTE: And what about the role of the scientific community in restoring faith in science?

HOLDREN: I have said for a long time that every scientist and every engineer in this country should tithe 10 percent of her or his time to engaging with public policy and with public education on science and technology issues. We no longer have the luxury of staying in our laboratories, of sitting at our desks working on advancing our science and engineering disciplines. We have to interact with broader society in ways that communicate what we're doing, why we're doing it, and why it matters. The scientific community has to get better at telling informative stories about how science works and about what it is doing in support of the aspirations of the American people.

GAZETTE: How do you handle the cultural divide between science and politics and account for normal scientific uncertainty without undermining what we know as facts?

HOLDREN: There are short-term approaches to that dilemma and longer-term approaches. Starting with a longer term, we have to do a better job in our schools, at the K through 12 level, with science education. Our K-12 science teachers have been spending too much time instilling facts about what science knows and too little time instilling understanding of how science works — what the sources of progress are, the sources of error correction, peer review, the sources of credibility and authority in science. We cannot expect the entire population of the country to be sufficiently educated about scientific matters to sort out technical controversies on the details of climate change, the details of COVID-19, the details of the interaction of science with economic policy. But what we can expect is to develop in the public a greater understanding of how science works and what the sources of credibility and authority in scientific findings are. We need to surmount the liability from which we have suffered for a long time. In many facets of the media there has been a preoccupation with “balance” that has led to overwhelming scientific consensus on one side being countered with tiny minorities of dissenters who somehow get equal time and equal weight. People need to understand what the National Academy of Sciences is and how it works; what the National Academies of Engineering and Medicine are and how they work; how the great professional societies — the American Geophysical Union, the American Association for the Advancement of Science, the American Physical Society, the American Chemical Society — work and why the considered positions of these bodies deserve more weight than the voices of a very small number of contrarians, on whatever issue.

GAZETTE: What about the short-term answers?

HOLDREN: The shorter-term solution is what we already talked about: scientists, engineers, and innovators getting better at explaining not just what they know, but how they know it. What I have found to be extremely ef-

fective in my communications about climate change, for example, is not just to explain what we know, but to explain how we know it in terms of the converging lines of evidence from observations, analysis, and modeling, and from paleoclimatology — the study of how climate has changed over the millennia under natural influences, which helps us understand that human influences have now overwhelmed the natural ones.

The other thing I've learned is that it's important to start by listening to people with contrary views — by asking them what they think before starting to lecture them about what you think. When I am discussing climate change or energy policy with people who hold views drastically differing from mine, for example, I have found it most effective to start by listening respectfully to what they think and why they think it. Then I can craft my response to the specific concerns that have animated their views. If you listen first, you will get a lot further in communicating with people with views different from yours.

GAZETTE: What is an example of a classic, successful government policy backed by good science? I'm thinking back to the Montreal Protocol for ozone depletion, or Apollo. Those had political backing, but they were also underpinned by good science. What to your mind is the classic example?

HOLDREN: I would point to the Paris Agreement, which was an immense step forward in which 195 countries all across the world committed to take constructive steps toward reducing their climate-altering emissions going forward. The industrialized countries of the world also committed, in the Paris Agreement, to sharply increase their assistance to less-developed countries for their efforts not only on emission reductions but also on adaptation, preparedness, and resilience against the changes in climate that can no longer be avoided. That was all based in science and scientists were extremely effective in helping to develop that international consensus that the agreement embodies. Many of us in the U.S. scientific community were involved over the decades preceding the Paris Agreement with scientific colleagues and policymakers in China, India, Russia, Brazil, Mexico, Indonesia and many other countries, laying the foundation for international consensus on what needed to be done. And it worked.

GAZETTE: Didn't I hear that the day after the election was the day we actually withdrew from the Paris Agreement?

HOLDREN: That is true. The agreement requires that a country must give three years' notice before actually exiting. But the sad fact is that President Trump, when he announced in 2017 his administration's intention to withdraw, immediately terminated virtually all U.S. efforts to comply with the commitments that the United States made in Paris. So we had effectively withdrawn long before the formal withdrawal the day after the election. But I think our participation will be very quickly restored by our new president, and the rest of the world will welcome the return of U.S. participation and leadership on global climate change. There are, of course, many, many other examples of policies successfully driven, in substantial part, by understandings from science and technology.

GAZETTE: When we talk about the intersection of science and politics, should scientists be saying, essentially, "Do this. We've studied it. We believe this is the best course"? Or should they be presenting politicians with a menu of options? With climate change, I'm thinking of the role of nuclear power. From a strictly carbon standpoint, it seems nuclear would be an important part of the mix. But clearly there are a lot of voices saying, "Nuclear should go too."

HOLDREN: It is very important that, in talking about these matters, scientists separate what they know or believe as scientists from what they prefer as citizens in terms of public policy. It's very important to distinguish between issues of fact and issues of values and preferences. And it's possible, in my view, for scientists to do that successfully. Some people say that scientists should simply stick to their science, confine themselves to clarifying what they understand to be the scientific realities, and not talk about policy at all, that to do so is to politicize science. I reject that view. If scientists absent themselves from the policy process, society loses a very important set of voices from its policy discussions. I often tell my students that the facts about science and technology are not everything in public policy, but they are usually something. They matter. Of course, policymakers are not always going to make the choices that scientists would prefer. That's OK, because other sources of insight and value are also relevant and it's appropriate for policymakers to take them into account.

GAZETTE: What would you advise the Biden administration as a top priority once they take office?

HOLDREN: I think President-elect Biden and Vice President-elect Harris have already made clear that their highest priority has to be recovery from the COVID-19 pandemic. The economy cannot flourish; science and technology cannot flourish; and the climate-change issue cannot be addressed successfully unless and until we master the COVID-19 challenge. Biden and Harris are completely right about that.

At the same time, I think they're going to give very high priority to the restoration of the vitality and inclusiveness of the U.S. economy. President-elect Biden comes from a working class. He understands the predicament of working people in this country, and he is determined to address it. He also knows that immigration reform is related to the economy, as is leadership in science and technology, as are fundamental American standards of ethics and humaneness. And restoring a humane and science- and technology-friendly immigration policy will likewise be a boon to the economy and will be a priority for the Biden administration.

In the climate space, the Biden-Harris administration will not only rejoin the Paris Agreement, but without question they will restore many of the Obama administration executive orders on emissions reduction and climate-change adaptation, preparedness, and resilience that were rescinded virtually immediately by President Trump following his inauguration. I am still hopeful, by the way, that when the two remaining races for the Senate in Georgia are sorted out, the Democrats will finally again control the Senate and it will become possible then to move forward on climate change with Congress' help, rather than its opposition.

Another very high priority is going to be restoring U.S. relationships internationally. I think one of the many consequences of President Trump's fecklessness and unpredictability is a loss of confidence — a loss of trust — in the United States as a reliable partner in international arrangements. I believe Biden and Harris are going to be at pains to restore those relationships, to restore confidence in the United States as a partner. That will require rebuilding the U.S. institutions that nourish these relationships. Under Trump, the State Department has been hollowed out, the Environmental Protection Agency has been hollowed out, and a real former bastion of administration competence, the White House itself, has been hollowed out. Fixing all that is broken is going to be a big agenda, but I have every confidence that Biden and Harris are going to prove to be up to it.

GAZETTE: How handicapped will a new administration be if the Senate has a Republican majority? Clearly, a lot can be done with executive orders, but can everything be done that needs to be done?

HOLDREN: No, everything cannot be done with executive orders. It is much better to get major things done with the help of the Congress through legislation, which is, of course, much harder to unwind than executive orders are. I hold out hope that even if the Senate remains with a Republican majority, the fact that President-elect Biden has had a longstanding and generally productive relationship with Senate Majority Leader Mitch McConnell will make it possible to have greater collaboration and cooperation once Trump is gone and the dust settles. There are so many inherently bipartisan national projects waiting to happen; we simply must hope that Republicans and Democrats will be able to work together to get it all done.

The UK Government's Ten Point Plan for a Green Industrial Revolution

NICK EYRE

THE Government has now published its long-awaited plan for delivering the legal requirement of zero carbon emissions from the UK by 2050.

Having a plan is a significant moment for UK energy and climate policy, and much of the content is progress. In particular, the framing as a “green industrial revolution” recognises the scale of the task to transition away from the fossil fuels, which have powered industrial society for the last two centuries.

There is broad agreement that achieving zero carbon will be a multi-decadal process not a quick fix, with innovation needed in areas as diverse as energy efficiency, renewable energy, energy storage and the production and use of hydrogen. However, much of what is needed can be delivered with existing technology, so the early constraints on rapid progress are financial, social and political rather than technical.

Much of the media attention on the Plan has been on the proposals for electric cars. The Plan proposes investment of £2.8 billion in manufacturing of batteries, electric vehicles and installation of their charging infrastructure. Electric vehicles are much more energy efficient and will become genuinely ‘zero carbon’ in use as electricity is decarbonised. Switching away from vehicles based on oil is obviously a major change, so the decision to bring forward to 2030 the phase-out date for sales of new petrol and diesel cars is a critical statement of intent to bring forward investment in electrification.

The Ten Point Plan also begins to address the problem of decarbonising heat, which involves the challenging prospect of phasing out natural gas boilers. It sets an ambitious goal of 600,000 energy-efficient electric heat pump installations annually by 2028. There is also ambition for the use of hydrogen as a natural gas substitute,

with trials at increasing scales, leading a ‘Hydrogen Town’ by 2030.

Despite the positive steps, two key questions remain unanswered: What is the strategy? And where are the people?

Having a “Ten Point Plan” in advance of a strategy seems a little odd. Fundamental questions like: “how much should energy demand be reduced?”; “How much will be delivered from different renewable sources?”; “How much will it cost?”; and “Who will pay for what?” remain unanswered. And there are gaps in the Plan that raise many questions.

There is welcome support for offshore wind, but the generation capacity mentioned, of 40GW, falls far short of what is ultimately needed. More worryingly, there is scarcely a mention of onshore wind or solar photovoltaics, despite these being the cheapest zero carbon generation options. Both could be developed as significant sources of energy, but this would require a more positive approach than we have seen in recent years in English national planning policy. Instead, there are commitments to “advanced nuclear technologies” and nuclear fusion, both of which would be far more expensive options, and neither of which has a realistic hope of generating anything until after the electricity system has been largely decarbonised.

More than half of the 40% reductions in carbon dioxide emissions over the last 30 years has been achieved through using energy more efficiently. And every credible analysis of decarbonisation pathways shows that investment in sustainable buildings and mobility, to reduce their energy needs, will continue to be critical. Moreover, these are the measures we know can be delivered and can also create jobs. They should be a major element of post-Covid

investment plans. Yet the Ten Point Plan does not make them a priority.

The Plan mentions the intention to spend £9.2 billion on support public transport, cycling and walking. This looks ambitious, but, on closer inspection, none of this is new money. So local Councils, already in deep financial trouble due to the combined effects of austerity and coronavirus, are being expected to do more in these areas with less resource. At the same time, existing plans for road building, totalling £27 billion, have been retained, despite the well-established link between road building and increased car use. Similarly, the section of the Plan on aviation focusses on ambitious goals for alternative fuels, but ignores the subsidies for airports and aviation fuels that increase demand for this least sustainable mode of travel.

For building efficiency improvement, £1.1 billion has been allocated for the next financial year, but nothing after that. This fails to recognise the need for long-term policy stability to promote investment. The resource allocated is still less than the support that existed prior to 2012, when the disastrous Green Deal policy decimated the insulation industry. It is wholly inadequate in terms of catalysing delivery of the goals for either improved insulation or low carbon heating technologies.

Perhaps the biggest gap in the Plan is its neglect of people and communities. Any industrial revolution will involve major societal changes. A green industrial revolution will not happen without fundamental changes to buildings, transport and planning. As the outputs of the recent UK Climate Assembly show, citizens are capable of making reasoned choices in these areas, but they need to be well-informed and involved in decision-making processes. Education, skills and training will also be critical, especially in sectors where there are major changes in employment, for example in heating system installation. All parts of government—national and local—with relevant responsibilities have to be part of the solution. Yet local authorities merit just one reference in the Plan and that is to how to monitor their performance. Skills and training are mentioned as important, but with no new resource commitments. The role of bottom-up activity such as community projects is ignored, as are the need for public engagement and consumer advice.

Overall, the Plan reads like a shopping list of interesting technologies that might be grafted onto the existing energy system. It fails to recognise the more fundamental needs for change and links to other policy areas. It does not provide a clear pathway to zero emissions, nor does it commit the resources required. It reads more like a document designed to appease the main corporate lobbyists with access to 10 Downing Street, rather a set of carefully analysed priorities. It is certainly better than nothing, but very far from a coherent strategy for a ‘green industrial revolution’. What is needed now is such a strategy.

The Year Without

My sentence is hard enough, what with new love daunted by sexual distancing, and a two-dimensional family unreachable across the plague cities. Eight months, now, since I entered another building apart from hospital check-ups and the health centre.

But so far my senior, undeserved livelihood remains assured; telecomms only go down occasionally; and support from a busy neighbour unseen before last week never wavers. On my short suburban walks every street is a negotiation, but every tree, or skip, or open window rewards the passer-by, a collation bound up by the sweet, reassuring perfumes of autumn.

Remote from my own life, I wonder uselessly about the little places that help to constitute a world city. What about Joe’s, for instance, just around the corner I no longer turn? Did he ever make it to Rome? And is the room still calmly busy with families, lovers, and oddballs, the way it should be? Or the wholefood café in Friars Entry, which I forgave for ending their extraordinary cheesecake years ago? And will I ever again engulf the samosas of the Café Crème? Their years must have been so hard that I feel ashamed to speculate.

Perhaps the city itself, all its books and bars and bicycles and ballads, has started to fade, to leach into Wonderland, sweeping away the playing fields, the Cowley Mosque, Tom Tower, Catweazle, the Shark, the homeless spaced out along every street like coots on a riverbank, the Covered Market, the foodbanks, and the Randolph, to scatter across an enormous tea-towel with a border showing the Lamppost, Rivendell, the Dictionary Pillarbox, and Cowley Police Station, which has then been hung out in a gale as a forlorn replacement for Carfax, pretending to hope for tourists who no longer come.

Although the one thinning out is more likely to be myself, it’s no consolation to realize that my condition must be multiplied by millions from here to Melbourne, and from Red Square to Sunset Boulevard.

RIP BULKELEY

Rip Bulkeley is an Academic Visitor at Exeter College.

Oxford Citizens' Assembly on Climate Change

The following are extracts from the Report of the outcome of Oxford's recent Citizen's Assembly aimed at recommendations regarding the City's sustainability policy – eds*

Executive Summary

Background

Oxford City Council declared a climate emergency at the start of 2019. As part of its attempts to tackle this, the council decided to act quickly and become the first city council in the country to hold a citizens' assembly on the issue. Ipsos MORI was commissioned to conduct this work.

The Oxford Citizens' Assembly on Climate Change recruited 50 residents of the city of Oxford. Participants attended two full weekends of deliberation and discussion over the 28th and 29th September and the 19th and 20th October 2019. They were tasked with deciding how to respond to the following question: "The UK has legislation to reach 'net zero' by 2050. Should Oxford be more proactive and seek to achieve 'net zero' sooner than 2050?"

To do so, they focussed on five key areas relating to carbon emissions in Oxford: waste reduction, buildings, transport, biodiversity & offsetting, and renewable energy. To help understand and deliberate on these issues, Assembly Members listened to expert presentations, had question and answer sessions with experts, discussed the issues with fellow Assembly Members in small breakout sessions and larger plenary sessions, took part in creative exercises, and voted on key questions.

Key messages from assembly members

The majority of Assembly Members (37 out of 41) felt that Oxford should aim to achieve 'net zero' sooner than 2050. However, even among those who agreed with this, there was little consensus on when Oxford should aim to reach 'net zero' instead. Instead, Assembly Members felt that rapid action was required, that the speed of action depended on the specific area under consideration, and that interim targets would help measure progress.

Assembly Members were very aware of the scale of the problem and the need for change. Both the scale and the need for change were greater than they had anticipated before the Assembly, yet what they heard—from experts and from fellow Assembly Members—encouraged them that change was possible.

Assembly Members responded particularly positively to the examples of what is already being done across Oxford to address climate change and meet the goal of becoming 'net zero'. There was limited awareness of this among Assembly Members, however it gave a sense of what could

be done—which helped counter the fear that things have gone too far already or that the scale of the challenge makes reaching 'net zero' an intractable problem.

Discovering that something is already being done encouraged them to think that even more could be done. This strongly suggests that communicating more about what is already being done can help foster enthusiasm and optimism.

When imagining a 'net zero' Oxford, Assembly Members envisioned Oxford having become a leader in tackling the climate crisis. In achieving this, Oxford would become a more liveable city, with better communities, happier, healthier people, and a cleaner and more pleasant environment to live in—all without sacrificing residents' standard of living. There is an opportunity here for the council to harness this strong civic pride—Assembly Members felt that, as an affluent city with access to the expertise of the university, Oxford should be leading the way.

Enhanced biodiversity was central to the overall 'net zero' vision of Oxford with increased flora and fauna in the city. Assembly Members foresaw major changes in transport provision in Oxford with cycling, walking, and public transport prioritised over private motor vehicles.

There would be key changes in the buildings sector with improved building standards, widespread retrofitting, and more domestic and non-domestic energy needs being met by sustainable sources. Assembly Members anticipated future Oxford residents would have more sustainable patterns of consumption with less waste and increased levels of recycling.

However, it's important to consider the caveats to this broadly optimistic and positive image. Around one in four to one in three Assembly Members rejected the most ambitious—and, therefore, challenging to achieve—visions of a future Oxford. For these Assembly Members, the most ambitious scenario typically felt impractical, unrealistic, and represented too great a change from their current lifestyles. Bringing these more sceptical or reluctant citizens with you will be vital to meeting the 'net zero' challenge.

Assembly Members were also perturbed by the extent to which the burden of change was—in their eyes—being placed on individuals. They wanted to know what large businesses and government were doing to change their ways—and, in the latter case, to support individuals and communities to meet 'net zero'. Related to this, there were many questions about how changes—new heating systems, retrofitted homes, solar panels—will be paid for.

There was, therefore, a sense that the council needs to communicate a shared vision and strategy to reaching 'net

zero' that shows the roles played by local and national government, businesses, and individuals. There was also a demand for more education and information provided for the wider public in Oxford to help them understand what they can personally do to help. Specifically, Assembly Members wanted more information about how to recycle correctly.

Theme by theme

Waste reduction

Recycling, reducing, and re-using waste were important goals for Assembly Members. They felt that individuals and organisations should be encouraged to consume and produce less, respectively.

Yet there was confusion over how recycling currently works in Oxford. Assembly Members demanded more education and information in order to ensure households recycled effectively.

There was a mixed response to some of the potential solutions discussed including: reducing bin size, charging people for their waste collection, freecycling, and share/repair schemes.

Buildings

Assembly Members found it surprising that the largest proportion of emissions came from buildings—they typically assumed transport or industry would create the greatest emissions.

A mix of developers, private landlords, individuals, Oxford City Council and central government were felt to be primarily responsible for reducing carbon emissions in buildings.

There was a perceived need for a balanced approach to decreasing emissions from buildings while simultaneously working to resolve the current affordable housing and homelessness crisis in Oxford.

Assembly Members firmly believed that it's more cost effective if all new builds are built to sufficiently high standards, rather than paying the prohibitively high cost of retrofitting.

Transport

Encouraging behaviour change with a shift away from private car use was seen as key—people can feel reliant on their car. Implementing infrastructure changes (i.e. more and safer cycling infrastructure) and technological changes was also important.

A unified strategy for transport planning between Oxford City, the County Council, and public transport providers was important to Assembly Members. Incentivising public transport use and consideration of how vulnerable groups (especially children and the elderly) can get about were important areas to address when encouraging a move away from cars.

Biodiversity & offsetting

Assembly Members were very positive about creating more biodiversity and green space around Oxford. Creating more green space and planting more trees was considered an 'easy win' and visible to the whole community.

There were questions about whether 'offsetting' could effectively address carbon neutrality, and if it allowed those who can afford it to continue polluting.

Assembly Members identified a tension between setting aside land for green space while, at the same time, allowing for new housing to be built.

Renewable energy

There was surprise at how much Oxford has already done about renewable energy.

Electricity was viewed as more expensive than gas, and there were concerns about the affordability of solar panels.

It was felt that too much emphasis is currently placed on the individual to take the initiative. The council and national government need to play a more direct role in helping households to make the transition away from gas and to new sources of power.

Assembly Members were open to compromise in deciding where renewable sources would be placed—neutralising climate change was ultimately seen as more important than the aesthetics of Oxford's skyline.

Should Oxford aim to achieve net zero sooner than 2050?

Key findings

The majority of Assembly Members (37 out of 41) felt that Oxford should aim to achieve 'net zero' sooner than 2050. However, even among those who agreed with this, there was little consensus on when Oxford should aim to reach 'net zero' instead.

There was not a clear consensus on what Oxford should focus on first. Suggestions included 'quick wins' like transport improvements as this would be noticeable to residents to show that Oxford is doing something in response to climate change.

Voting results

The UK Government has legislation to reach 'net zero' by 2050. Should Oxford be more proactive and seek to achieve 'net zero' sooner than 2050?

	Overall results
Yes	37
No	

As outlined in table 8.1 above, the majority of Assembly Members felt that Oxford should aim to achieve net zero sooner than 2050. However, there were mixed views about this and even among those who agreed, there was little consensus on when Oxford should aim to reach 'net zero' instead.

There were various reasons why Assembly Members were inclined to support a more ambitious timeframe for Oxford than 2050. For some, 2050 was seen as too far away, with a deadline of 30 years in the future not incentivising immediate action to address the climate emergency. After having attended the Citizens' Assembly and hearing from various expert speakers, Assembly Members were confident that Oxford had the technical capability and an engaged and ambitious public which will help them to achieve net zero sooner. The number of 'green' initiatives already taking place in Oxford also gave them a sense that the city was already ahead of the curve and was well-placed to push harder and faster to reach 'net zero'.

"Absolutely [we should aim for net zero before 2050]. I want to be ambitious. I think it is the right thing to do. Why wait until 2050? On lots of means. It's good for the environment. It'll be good for individuals. Good for health, wellbeing, mental health. The city will look lovely. I don't see any downside other than the pound signs." (Male, 30-44, White, ABC1 and OX2)

In addition, Oxford was seen as a relatively affluent and liberal city. As such, Assembly Members felt that cities like Oxford must aim to achieve 'net zero' quickly in order to protect future generations and poorer countries who are more negatively impacted by climate change. This would also help the UK to reach its overall target of 2050. Furthermore, Oxford's connection with a world-leading university means it should be a leader and set an example for the UK and the rest of the world to follow. Some suggested setting the target for say 2030 would also allow for 'slippage' and the target still being met within a reasonable timeframe, which would not be the case with a 2050 target.

"Oxford has the research and intellectual and academics to help us, so if we can't use best evidence, who can? We need to be leaders." (Female, 65+ White, ABC1 and OX2)

In contrast, others were sceptical about the practicalities of being able to make the changes required to achieve 'net zero' by a date sooner than 2050. For these Assembly Members the realism and recognition of advice given by experts throughout the Assembly had highlighted the challenge in reaching 'net zero' by 2050 and they therefore thought it would be unrealistic to aim to do it sooner.

Interim targets were suggested as a potential solution to this difference in opinion, with progressively more ambitious 'net zero' targets set for 2030, 2040, and finally 2050.

How views have changed

Across the Assembly, the views of Assembly Members changed a little regarding their response to the whether

or not Oxford should aim to achieve 'net zero' quicker than 2050.

One way in which their views changed was from a 'yes' at the start of the Assembly to a 'stronger yes' by the end. At the beginning of the Citizens' Assembly, and despite being broadly supportive of the aim, Assembly Members had little sense of how it would be achieved. By the end of the Assembly, however, there were those who felt it would be possible for Oxford to hit the target before 2050. There was increased awareness of current initiatives in Oxford, and this gave people encouragement. In addition, the active engagement from all Assembly Members and meeting others with strong desires to set an ambitious target, helped make it feel possible to bring others on board and set ambitious targets.

"My view has changed. I thought we should do this, but I thought it was going to be a lot more difficult than I think now. It's a combination of things. They're underway. Projects we've seen where it's already worked. The amount of people I've talked to here that are enthusiastic. That's changed my attitude about how easy it would be to convince people." (Male, 30-44, White, ABC1 and OX4)

Those who had a change of mind from 'yes' to 'no' cited financial reasons for the change as well as less faith in the methods for achieving 'net zero' as they had before. These Assembly Members felt that there were other pressing issues in Oxford such as homelessness, the housing crisis, and social care—for some people, an increase in rent or council tax for retrofitting would not be feasible, for example. The solution to address the climate crisis needs to be fair to all including those on lower incomes.

What should Oxford do first?

There was not a clear consensus on what Oxford should focus on first. Suggestions included 'quick wins' like transport improvements as this would be noticeable to residents to show that Oxford is doing something in response to climate change.

"I think transport is more visible. Once you've done transport, you can see you're on the right path, and once they see that change, they'd be more likely to do other changes." (Male, 45-59, BME, C2DE and OX4)

Others felt the immediate priority should be green space and conserving biodiversity, for example, banning the cutting down of trees.

Overall, it was felt that the council should ensure that policy making is holistic and comprehensive and work with central government to drive change. Engaging with the wider public and relevant stakeholders would be integral to this.

** https://www.oxford.gov.uk/downloads/file/6871/oxford_citizens_assembly_on_climate_change_report_-_november_2019*

Five Sonnets in Honour of Sir Walter Raleigh

Executed on the Scaffold, Westminster, 29 October, 1618

He dresses in the Tower

At five, the priest. The prisoner, confessed,
Cheers up a little, even seeming merry,
Taking his usual care in how he's dressed,
Stylish as ever, fashionable (very) –
Doublet, hair-hued; taffeta breeches, black;
Waistcoat, embroidered, black; kid gloves in hand;
Gown, velvet, also black, draped on his back;
Silk stockings, ashen-toned; a starched ruff-band;
Hair and beard combed; nightcap beneath hat-brim.
On this his death-day, no-one shall fault *him*.
Such polished combination will gainsay
Him flashy or flamboyant in array.
Today, he means to make the perfect showing,
This day of all days, day of his outgoing.

He walks to Westminster

Before he leaves the Tower, a cup of wine
A friend has brought him, fiery Spanish *sack*.
Asked how he likes it, he replies, "Sir, fine!"
And witty, even jaunty, parries back,
"If I had time, why, I should sip my fill,
But since Time's hounds close in now for their kill,
Meet (meat?) for chase, I relish it more still."
Then, as he leaves the Gatehouse, such crowds mill
He nearly swoons, yet pushes onwards through.
He greets a bald man "Sir, what do you do
Out and about, on such a chilly day?"
"Sir Walter, I have come here but to pray –
That God may grant you mercy as you die."
"Then take my cap, you'll need it more than I."

He speaks on the scaffold

Upon the scaffold, now his time has come,
He makes a speech, and it is fabulous,
Part *apologia*, part *encomium*,
Theatre, worthy of Webster. Those of us
Who have admired or loved him find we barely
Can hold back tears, he speaks so fine and fairly.
And now, head bared, he has knelt down and prayed,
He stands, shakes hands with friends, removes his cloak,
And runs his thumb along the axe's blade.
Facing his Death, lays claim to his last joke,
Self-quotes, "We die in earnest not in jest,"
But now he quips, as if not much impressed
(Knowing Death does exactly as He pleases),
"Sharp medicine, but good for all diseases."

He meets Death at Westminster

With head placed on the block, he flexes arms,
Bared elbows bent, and patiently lays palms
Crossed against shoulders. Speaking calm and steady,
He tells the axeman: "Sir, now I am ready.
When I stretch forth my hands, so – then dispatch."
But now, a hitch, a glitch, an audience-catch –
Someone shouts out, "Sir Walter, you should face
Dawnward if you would find eternal grace."
He laughs aloud, "If heart be right, which way
Lieth the head shall matter not the least,"
And, showing not a hint of disarray,
Stands up, ensuring that he faces east,
Then takes one morsel more of time to pray,
Meet for the blade, his biter at Death's feast.

Westminster, the execution

When ravenous Death licked at him no-one spoke
And the crowd held its breath. No murmur broke.
When Death sliced through him like a loaf of bread
His lips half-moved in his half-severed head.
When Death tore through him like a fair field ploughed
A huge groan throbbed and echoed through the crowd.
And when his head was lifted by the hair
And brandished at all four sides of the square,
Someone cried of him, as of Tamburlane,
"Stars will climb skies but some great stars must fall."
So perished England's gambler *Gaterall*
Who grew in Devon, scourged the Spanish Main,
Farmed farthest oceans and, untimely, fell
To nothingness, tolled by no mourning bell.

RICHARD BERENGARTEN

Richard Berengarten's latest book of poems is *Changing* (Shearsman Books), a homage to the *I Ching*. He is a Bye-Fellow at Downing College and an Academic Associate at Pembroke (Cambridge).

NOTICE

Jane Griffiths, literary editor of the *Oxford Magazine*, will be pleased to read literary submissions of any description – e.g. verse, critical prose, very short stories, segments of dialogue, reviews of new dramatic productions and books, etc. Submissions should be no longer than 750 words, and where possible should be sent by email attachment to jane.griffiths@ell.ox.ac.uk together with a two-sentence bio.

Towards Sustainability – hopefully

PETER OPPENHEIMER

Following Peter Oppenheimer's commentary we reprint sections of the University's Draft Environmental Sustainability Strategy (Gazette Supplement (1) to No. 5291. Vol 151, 18th November, 2010) in order to record a development with very significant, long term—but inevitably unpredictable—implications for the future.

As the Vice-Chancellor says in introducing the document: "We are living in extraordinary times... In response to [an earlier round of consultations] we have developed this ambitious strategy.... Our aspiration is that staff, students and stakeholders will embrace the strategy in all aspects of University life."—eds

ONE's opening impression from the Draft Environmental Sustainability Strategy (ESS), published on 18th November as a Supplement to the *OU Gazette*, is the refreshing foreword by President Nikita Ma of the O.U. Student Union. Oxford students have been prominent in urging the University to respond in a manner worthy of its global standing to the challenges of climate change and biodiversity loss.

As it stands, the document before us may be described as a shaky milestone on route to that objective, though still a long way off. This is not merely a matter of cautious timetabling—the target date of 2035 for Oxford to attain net zero carbon being, for example, five years behind that of Glasgow University. Rather, the document is a combination of ringing commitments and patchy specification, best not subjected to detailed scrutiny. (Except perhaps as exercises for students—e.g. how many vacuous instances of the term “priorities” or “prioritize” can you find?) It is comparable, *mutatis mutandis*, to The UK Government's Ten Point Plan for a Green Industrial Revolution, assessed by Nick Eyre's article in this issue of the *Magazine*: “certainly better than nothing, but very far from a coherent strategy.”

Hence, no doubt, the disingenuous description of the ESS document as a “Draft” open—for all of 18 days between 18th November and 6th December 2020—to “University-wide consultation”. The extent of any earlier consultations the document does not reveal, but one is entitled for that very reason to be sceptical. Conspicuous also is that the twenty or so academic members of the “ESS Working Group” are (apart from two Heads of House) identified exclusively by Divisional, i.e. central administrative, labels, with no mention of faculties or departments. In the same spirit of Fortress Wellington Square, “A new Environmental Sustainability Subcommittee will be set up to oversee implementation of the strategy reporting to the Planning and Resource Allocation Committee (PRAC)” (para. 6.2.1). And there is no mention whatever of “Oxford Net Zero” (ONZ), the grass-roots network of Oxford researchers on climate-change issues, whose foundation was announced just before publication of the Draft ESS.

The document also invites a modern version of the legendary professorial put-down: what is quantified is not new, and what is new is not quantified. In its own words (para. 5), “the University has already worked for many years to reduce its environmental impact. The University's new target of net zero carbon by 2035 will supersede our existing carbon target of reducing carbon emissions by 50% from their peak of 2009-10.”

For the period 2019/20–2034/35, the ESS document has a Table headed “Outline capital and revenue costs of implementing the strategy”, amounting in total to £447m., nearly

all concerning gas and electricity networks. The sum may look large, but in fact would over fifteen years barely match the savings from an intrinsically desirable cut in central administrative personnel. The numbers are in any case not adequately explained. It is unclear how much of the stated cost is specifically attributable to the zero-carbon and biodiversity objectives (as opposed to necessary replacement or operation). In the case of revenue costs—including maintenance, which the Table misclassifies as “capital”—it is confusing to present a lump-sum covering fifteen years rather than ongoing year-by-year figures.

On the important issue of air travel, policy data is altogether vaguer. We are told that “a sustainability charge on business flights and international student commuting flights” will be levied “to contribute to the Oxford Sustainability Fund”—without the slightest hint as to the size of the levy, who will pay it or how it will relate to the equally unspecified outlays of the Oxford Sustainability Fund.

Meanwhile, the assertion (in para. 7.7) that “International flights are currently core to our business model” should ring warning bells. The University is not a tourist company nor a profit-oriented enterprise of any kind. Talk of “business models” and the like is completely out of place and can only confuse thinking. Oxford went through a brief episode of this kind five years ago in the context of the University's misbegotten Strategic Plan 2013-18. This aimed “for the University to achieve an operational surplus (calculated as earnings before interest, tax, depreciation and amortisation: EBITDA) of at least 5%, taking into account the increasing cost of replacing assets through inflation or rising expectations of functional suitability”. Such an “operational surplus” by the University means nothing but a gratuitous freezing of resources, self-evidently to be avoided. In order to serve the University's functions of teaching and research, capital projects and their financing (including appropriate borrowing) must be built into its year-by-year budgeting along with all other outlays (see my article “And so *Ad infinitum*”, *Oxford Magazine* No. 362, Eighth Week Trinity Term 2015, from which the above quotation is taken). And instead of business models, the central administration should concentrate on supply chains, and ponder the chain of causation that led the University in the last twenty years to perpetrate so much international air travel by its students as well as staff.

What can be wholly approved, even though lacking both quantitative backing and originality, is the ESS document's enthusiasm for research (para. 7.1) on climate and biodiversity issues—including collaborative, not exclusively Oxford projects. A research question which Oxford Net Zero (for one) might usefully address is the cost-effectiveness of programmes pursued by organisations of differing size and reach. It is arguable *prima facie* that, for example, an institution of Oxford University's (huge) complexity and (moderate) overall size is at once too large and too small to justify adoption of a single combined strategy for “net zero carbon”. On the one hand, university departments, like colleges, could set their own targets. On the other hand, fuel, transport and other systems may be more rationally determined at regional or national level. A specific free-standing strategy for Oxford University would seem liable to encounter sharply diminishing returns, and to provide mainly occupational therapy for the central administration.

THE UNIVERSITY'S SUSTAINABILITY PRIORITIES

Research

Increase research and engagement in environmental sustainability

Ground-breaking research and innovation are at the heart of our success in global university rankings. Oxford's researchers are improving our understanding of the reasons for global temperature increases, extreme weather and biodiversity loss.

From water to weather, fuel to food; from how we power our homes to how we protect and restore nature, Oxford's cross-disciplinary research is helping us to better understand the complexities of the interaction of human activities and the environment, and make a positive impact on our changing world.

Our researchers work with partners in industry, government, the third sector and other universities to address these challenges and to propose innovative approaches and solutions.

Commitments

Promote communication, coordination and collaboration between environmental sustainability researchers through the Oxford Network for the Environment (ONE) and other mechanisms.

Support interdisciplinary sustainability research teams in responding to major funding opportunities.

Seek to influence the priorities of research funders, including UK government and charities, to meet sustainability research challenges.

Fund research into negative emission solutions and net gain in biodiversity, in line with the aims of the strategy.

Curriculum

Offer all students the opportunity to study environmental sustainability, either within or outside the examined curriculum

Oxford provides an exciting, challenging learning environment, training future generations of researchers, innovators and leaders in sustainability.

We will give our students the opportunity to develop their knowledge, skills and understanding and become the sustainability leaders of the future. The University curriculum reflects its wide expertise in the fields of climate change, biodiversity and sustainability. Sustainability-related opportunities for internships and training courses are offered to students. Active student societies are pioneering extra-curricular courses. These opportunities will be improved and extended to all students.

Commitments

Ensure courses with core and optional sustainability content are easily identifiable.

Encourage existing degree programmes to develop further environmental sustainability streams in the core curriculum where appropriate.

Consider and support new courses related to interdisciplinary environmental sustainability.

Extend existing opportunities for extra-curricular study of environmental sustainability to all students.

Carbon emissions from energy consumption on the University estate

Reduce carbon emissions related to our energy consumption to a minimal level.

The University records and reports its Scope 1, 2 and 3 carbon emissions in accordance with the Greenhouse Gas Protocol. Scope 1 emissions are direct emissions primarily from gas used for heating buildings; Scope 2 emissions are indirect, coming mainly from electricity used in buildings; and Scope 3 emissions include all other indirect emissions from the organisation's operations and supply chain, such as travel, procurement, waste, water and investments.

The University purchases 100% renewable electricity. However, its carbon emissions are measured according to the UK National Grid average carbon emissions in line with the Higher Education Statistics Authority methodology. This means it is not enough to purchase renewable electricity. We must go further, reducing electricity use and increasing on-site or locally generated power.

The University will reduce its reliance on natural gas, used mainly to heat buildings, by replacing gas heat sources with electric ones across the estate. The forecast reduction in carbon from the electricity grid makes electricity a lower carbon heat source than gas in the longer term. We will establish district heating networks at Old Road Campus and the Science Area. Heat pump technology will be used across the estate.

More efficient use of energy will be achieved by encouraging energy-saving behavioural change, retrofitting buildings to reduce heat loss and using energy-efficient appliances. We will help departments achieve carbon savings. Offsetting will be needed for residual emissions, but we will only start to use it from 2030 onwards.

Commitments

Roll out a large-scale engagement programme to encourage energy saving across departments.

Recover cost savings of gas and electricity from investments in low-carbon technology from departments to finance further carbon reduction measures.

Introduce a retrofit programme to maximise energy efficiency.

Install heat networks using new energy technology as an alternative to gas.

Explore the installation of large-scale photovoltaic and heat pump systems.

Biodiversity

Identify and address the University's principal biodiversity impacts from its operations and supply chain and enhance biodiversity on the University's estate

Biodiversity loss is caused by multiple interacting factors. Climate change is increasingly important among these, both directly (such as through increasing temperatures) and indirectly (such as through invasive species). However, addressing climate change alone will not solve biodiversity loss. For example, the Global Footprint Network estimates that the UK population's consumption currently overshoots the planet's capacity to provide about fourfold. This overconsumption has led, among many other things, to the halving of UK farmland bird populations and to loss in resilience and functioning of our soils, water bodies, pollinators and woodlands. Our decisions about food, information technology and building works in the University can be traced back directly to destruction of nature in South America, central Africa and south-east Asia.

The University harms biodiversity both directly and indirectly. Most of our direct impacts relate to the management and development of our estate. We can mitigate these through commitments to increasing biodiversity in our estate management and developments.

Yet the indirect damage of the University's operations and supply chain on biodiversity is much greater. This includes our sourcing, consumption and disposal of food, water and materials. We also have both positive and negative effects through activities such as advising policymakers, education, research and investments.

Our biodiversity impacts need to be accounted for, with negative impacts mitigated and positive impacts enhanced, so that we can demonstrate an overall gain in biodiversity from all our activities. The Oxford-developed framework known as the Mitigation and Conservation hierarchy will be used. We will prioritise these actions in the hierarchy across our estate and elsewhere:

- 1) Refrain—refrain from actions that damage biodiversity
- 2) Reduce—reduce the damage our remaining actions create
- 3) Restore—restore biodiversity that has been damaged
- 4) Renew—renew and enhance nature

We will achieve biodiversity net gain through avoidance and reduction of the negative impact of our operations and supply chain (Refrain and Reduce), biodiversity enhancements on and off the estate (Restore and Renew), and biodiversity offsetting (Renew). The best available metrics for biodiversity will be used.

Because biodiversity impact is caused across all priority areas, we focus in this section on biodiversity-specific commitments which are not covered elsewhere.

Commitments

Measure, report and compensate for the damage to biodiversity caused by the University's operations and supply chain.

Agree and implement a plan to enhance biodiversity on the University estate and beyond, taking the wellbeing of the University's staff and students, and wider community, into account.

Set a target of quantifiable biodiversity net gain of 20% for all development projects on University land, achieved and measured in accordance with industry-standard best practice.

Bring the University's biodiversity research and actions to the wider community, for example through engagement events at the University's museums and gardens, to stimulate interest in and concern for biodiversity and strengthen the links between biodiversity and wellbeing.

Sustainable food

Reduce the carbon emissions and biodiversity impact of our food

How we produce and consume food affects biodiversity loss, deforestation, carbon emissions,⁶ climate change, water scarcity and water pollution. Food production accounts for 25% of total global greenhouse emissions and is the leading cause of biodiversity loss⁷. Oxford research shows that the most effective way to reduce the climate impact of our diet is to consume less meat and dairy and eat more plant-based foods⁸.

We have already acted to reduce the impact of catering at the University. Half the meals available at most University outlets are vegetarian or vegan. All outlets under the main University catering contract have Sustainable Restaurant Association certification. Environmental sustainability food labelling is being trialled to evaluate behavioural change linked to better awareness of the impact of food production on climate change and biodiversity.

Commitments

Report the biodiversity and carbon impact of our food on an annual basis.

Develop an action plan to reduce these impacts significantly by 2030.

Make all food at University catered events vegan or vegetarian by default, with meat and fish available on demand.

End the use of bottled water and ensure tap water is freely available to all staff, students and visitors.

Use an externally verified certification scheme to assess the sustainability credentials of the food offered at the University. This will encompass local and ethical sourcing, food waste, waste packaging and workers' rights.

Sustainable resource use

Identify and reduce the environmental impacts of our consumption and supply chain

A University baseline review revealed that the biodiversity and climate impacts of our supply chain and consumption dwarf those from our buildings and energy use.

Some of the biggest areas of environmental harm from our supply chain are laboratory consumables, paper and information technology. Reducing the environmental impact of our consumption can be addressed by changing behaviour, reducing use and minimising waste. The University's annual recycling rate of 35% is significantly lower than Oxfordshire's rate of 58% for household waste.

Scrutinising our supply chain includes assessing suppliers for their water use, waste generation, sourcing of raw materials, energy efficiency, packaging and compliance.

Commitments

Avoid and reduce the biodiversity and climate impacts of our supply chain.

Set a target to increase the recycling rate, potentially using a building recycling league table.

Reduce paper use by departments including introducing on-demand printing across the University.

Limit the impact of information technology procurement and operations.

Avoid use of single-use products where possible.

International travel

Reduce aviation emissions from University staff and international student travel and offset the balance of emissions

Global air travel has almost doubled in ten years, from 2.2 billion passengers per year in 2008 to 4.2 billion in 2018. Aviation is one of the fastest-growing sources of greenhouse gas emissions. The UK has particularly high aviation carbon dioxide emissions per capita, accounting for 4% of global emissions from flights.

Flying is particularly damaging for the environment because emissions at high altitudes from burning jet fuel and from soot and water vapour have a greater environmental impact than emissions on the ground.

As a global university we attract students and staff from around the world and our academics travel for international conferences and meetings, as well as to conduct research. International flights are currently core to our business model. We need to reduce flights and to address emissions from aviation.

In 2018/19, staff flying on University business emitted an estimated 30,000 tonnes of carbon, and international students travelling to Oxford to study produced an estimated 21,000 tonnes more. These figures exclude emissions from visitors invited to collaborate or attend conferences in Oxford.

Commitments

Agree the extent of University staff and student flights to be calculated and report on these emissions annually.

Develop and implement a travel policy for air, rail and other travel which incorporates a Travel Hierarchy for all domestic and international travel for staff and students as follows:

avoid travel

reduce travel demand to and from the University

travel without flying

fly when there are no alternatives and offset these emissions through the Oxford Sustainability Fund.

Roll out a large-scale engagement programme to encourage use of the Travel Hierarchy across departments.

Reduce flights.

Levy a sustainability charge on business flights and international student commuting flights to contribute to the Oxford Sustainability Fund.

Offset emissions from all business and international student flights, starting from the 2034/35 financial year.

Local travel

Limit transport emissions by reducing the need to travel, encouraging walking, cycling and use of public transport, and managing the demand to travel by car

Transport is responsible for more emissions than any other sector of the UK economy, accounting for 28% of all greenhouse gas emissions in the UK in 2018. Staff and student commuting, operational needs and freight deliveries all contribute to the University's carbon emissions. Transport is the main source of nitrogen dioxide in the city, accounting for 75% of emissions in Oxford. Vehicle movements also endanger vulnerable road users and create noise pollution and congestion.

Around 60% of staff live outside the Oxford ring road, often resulting in lengthy commutes. In 2018/19, 75% of staff and 97% of students travelled to work and study by sustainable modes. However, 11,200 tonnes of carbon was emitted from staff and student commuting.

The University supports staff and students with disabilities who need a parking permit. Any measures introduced to manage the demand to travel by car will not restrict access to parking for those with disabilities.

The University's vehicle fleet is now 11% electric. Freight and post have already been consolidated through the University internal mail service, which delivers more than 1 million items per year by bike and zero-emission electric vehicle. We will work on further freight consolidation at the University.

Commitments

Support and lobby Oxford City Council, Oxfordshire County Council and central government to implement proposals aimed at reducing congestion and improving air quality, by investing in walking, cycling and public transport infrastructure in Oxford.

Reduce the need for our staff to travel by supporting remote and flexible working.

Support more sustainable choices of public transport, walking and cycling.

Where possible, reduce commuter parking, prioritising parking for those with disabilities and caring responsibilities, in order to make better provision for cyclists and pedestrians.

Develop proposals and work with partners to improve public transport and walking and cycling connectivity between sites used by the University.

Investments

Ensure that the University, as an investor, is part of the solution to climate change and biodiversity loss

The University has substantial investments, most of which are perpetuity, charitable endowment funds, managed by a specialised investment team, Oxford University Endowment Management (OUem). This is a wholly owned subsidiary of the University and manages over £4 billion of charitable money on behalf of the collegiate University. Investment policy is set by the University's Investment Committee and implemented by OUem.

OUem actively manages the Endowment Fund to be part of the solution to climate change and biodiversity loss. The Oxford Endowment Fund has recently placed restrictions on direct investment in fossil fuels. Investments are thoroughly analysed for potential environmental and social risks to prevent poorly managed negative environmental and social outcomes.

Commitments

Publicly disclose an Investment Policy Statement that describes how the University manages its investment assets, outlining the governance structure, investment objectives and processes relevant to environmental sustainability and climate change.

Implement the resolutions of Congregation on Fossil Fuel Divestments and Net Zero Investment⁹.

Actively engage with fund managers using the Oxford Martin Principles for Climate-Conscious Investment.

Annually publish the Investment Committee's Socially Responsible Investment report.

Ensure a member with relevant expertise in investment management and climate-conscious investment is appointed to the Investment Committee.

Closing, timeline and outline costs

We all face an unprecedented threat from multiple, intersecting environmental problems. These pose an existential threat to human society as we know it across the planet, and it is vital that every individual, company and institution does their part to address them.

This Environmental Sustainability Strategy provides a framework for the University of Oxford to do this.

The Seriousness of Storytelling

JOSHUA ETTINGER

FROM Bilbo Baggins to Lyra Belacqua, Oxford is the birthplace of some of the world's most renowned stories. Oxford is therefore a fitting community in which to examine the practical value that storytelling can offer academics and students across all disciplines.

Stories provide entertainment and meaning to cultures around the world. Some scholars call humans the storytelling animal—our ability to weave narratives distinguishes us from other species. However, more pragmatically, the craft of storytelling can prove useful to the academic community in three fundamental ways.

First, it can help us communicate more effectively across a variety of academic tasks including writing, teaching, mentoring and even preparing grant proposals. For example, we can organise a literature review with a logical narrative flow that highlights the contributions of key thinkers; provide case studies to explain theoretical concepts; and amusingly describe the story of our research in presentations and interviews.

Second, stories can make research more accessible to audiences beyond one's discipline. A wide body of literature known as the 'science of science communication' is composed of studies demonstrating how stories boost engagement among non-expert audiences. At a time when evidenced-based thinking is desperately needed among the general public, finding ways to make research accessible is more crucial than ever. Storytelling is not a

replacement for accurate and ethical communication. Nevertheless, by portraying research as a human-driven process, we help build transparency and credibility.

Finally, storytelling, especially among more senior academics, offers crucial lessons for students and early career researchers. Experiencing failure and academic difficulties can exact a heavy emotional toll, which often causes imposter syndrome. This may be associated with a scholarly system that tends to prioritise and celebrate only significant, publishable results. Learning about the hardships faced by accomplished researchers offers perspective, solidarity, and confidence to overcome inevitable difficulties encountered during an academic career.

Storytelling should therefore be taught alongside other skills. Although some of us are naturally gifted storytellers, most of us could benefit from a bit of training. For instance, when telling a story, how much detail should we include? How can we make a narrative more gripping? At what point and how can we add comic relief? Fortunately, there are hundreds, perhaps thousands, of creative storytellers across artistic genres working right here in Oxford. For instance, Worcester College maintains a Royal Literary Fund Fellow (currently renowned playwright John Retallack) who helps students with their writing. Academics have much to learn from storytelling experts—we need only ask their help.

Dialogue at Kloster Eldena

High summer midnight, shadowy with great trees
The oak leaves overhead sewn thick with stars,
Rügen offshore, and the wind soft through the groves.

'I know he would have come here as a child
To play among the ruins, so this place
Was at his heart.'

'And that great arch?'

'It is the gate of the greenwood, Peter, if you should
choose,
Beyond it lie all the April mornings of the 1820s;
It is the door to gentle democracies under the soft brown
moon
To the sun through the pinewood at the end of a life lived
well.

Or else it is the way to the past and the forest in winter,
To the lonely, unforgotten thorns on the heath outside
Dresden,
The desolate whaleback monoliths on the Baltic shore,
And ice seas north of everything where oppressions
thrive.'

'Sophie, this arch, this portal of the snows and the stars:
It is so many things, we hardly dare pass through it.'

September Castles

First hints of our condition manifest:
Spite in the wind, mist-gauze across the moon,
Light chill, the spider's filaments, blanched grass,
And two days as warm as the south change nothing at all,
A morning comes when you know this cannot end well.
Soon it will be no time for gathering in gardens.
All too soon, my dears, it will be the weather
For Brahms quintets, for leaves drifting *triste* past the
windows
Of those in their rooms alone for the duration,
For whom this is no time to build. Those now alone
Are going to remain so through this estranging season
Of reading, of writing emails as detailed as letters,
Of watching dry leaves grow sodden on empty pavements.
Rilke said this in lines that I last read in Edinburgh
With my most beautiful aunt in her later age
When, many things gone, she remembered those verses in
German.

PETER DAVIDSON

Peter Davidson is a Senior Research Fellow at Campion Hall. He is editing the complete works of St Robert Southwell (forthcoming from OUP). Previous books include *The Idea of North* (Reaktion, 2005), *Distance and Memory* (Carcanet, 2013), and *The Last of the Light* (Reaktion, 2015). *The Lighted Window* will be published by Bodleian Editions.

Technical Reasons

FINN JARVIS

THE implementation of a new Single Sign-On (SSO) system, complete with Multi-Factor Authentication (MFA), has barely begun; but this *Magazine's* recent editorial remark that 'we should be prepared for disruption, if not chaos' has already proved dispiritingly prescient.¹ Those who were required to make the switch early were afflicted by such serious difficulties that the introduction of the MFA component has largely had to be delayed until the new year, a decision which has yet to be announced to us students.

The fact that the system is malfunctioning has not made its introduction any less inexorable, however. The project's website² continues to insist, with subtle irony, that it will be very difficult to have one's MFA implementation delayed. Any total exemptions will be extremely rare and require the personal approval of one's Head of Department.³ Even those for whom MFA is so impractical that they would have to plug a specialised physical device into their machine every time they wish to access anything behind an SSO 'wall' will have no option but to do exactly that, having first persuaded their departments or colleges to cough up for these 'hardware keys'. No doubt this minority – presumably largely poorer or older – is considered insignificant, and will soon be ignorable altogether: it is already impossible to participate in Oxford's life without constant use of a computer, and it will soon be impossible to do so without a smartphone.

Previous discussion of SSO in this *Magazine* has highlighted its insidious potential to obstruct transparency and democracy. Those who give instructions to the IT and administrative staff who maintain and apply SSO have the power to restrict information from being easily available, and to make it more difficult for those who are privy to it to actually see it. This power is not at all trivial, since SSO is frequently used to regulate access to official University documents: the full version of the *Gazette*, for instance, and – just as important in recent times – communications from management figures.

Members of the University who are supposed to be supported by these administrative activities have the right to ask why they rather find themselves directed and restricted. This latest incident offers a partial answer, because it demonstrates the extent to which the operation of the University has become technicalised, and with it, power over that operation. The implementation of a com-

plex system like SSO requires technical knowledge, and this fact can sometimes make it seem as though decisions about such systems – for example, 'is it time to introduce MFA?' or, 'what sort of thing should be behind an SSO wall?' – were also solely technical decisions, rather than being political acts, where debatable principles and priorities are at stake. The fact that such decisions are often being made by the managers of administrative or support personnel, and not under the watch of Congregation, suggests that these decisions have indeed been allowed to be thought of in this deficient way.

Thus technical systems – which may be digital, but also administrative, financial, legal – tend to provide a cover for the appropriation of institutional power by those who would not otherwise be entitled to hold it. Administrative and support departments tend to have much more direct and obvious management hierarchies than the structures many collegiate academics have traditionally enjoyed, and as a result this appropriated power largely accrues to the specialist managers⁴ who conduct and increasingly control the University. This is not the first time that such people have felt the need to establish alternative loci of power outside of institutional self-governance.

Perhaps this transfer of power would be tolerable if the swollen 'support' staff that it necessitates had led to a superb technical and administrative assistance that unburdened academic staff. The MFA screw-up disappoints this hope. Certainly there are non-academic functions that are essential to the University's existence and activity, and the good will and hard work of the relevant staff are not in question. Nonetheless, when the carefully designed application of vast resources continually leaves us inconvenienced and obstructed, it is clear that the arrangement is structurally not in the interests of academic life.

¹ *Oxford Magazine*, No. 424. Fifth Week, MT 2020; p2.

² <https://projects.it.ox.ac.uk/multi-factor-authentication-project>, accessed 18/11/2020.

³ According to the form to request exemption, available via the IT 'self-service' system.

⁴ I owe the phrase to Prof. Alex Schekochihin's use of it in a Congregation meeting.

NOTICE

The Editors of the *Oxford Magazine* regret that they cannot publish any material submitted to them anonymously. If the author requests publication on the basis that the author's name and university address be withheld from the readership, the Editors will consider the reasons given and in their discretion may publish on that basis; otherwise the material will be returned to the author.

1231 and All That

G.R.EVANS

AFTER three years as a University Teaching Officer in Cambridge I was allowed to incorporate my Oxford degrees and stitch onto my black gown the streamers which only a Cambridge graduate may wear and some black lace which over there betokened the highest degree in the set. That gave me the lifetime rights I would have had if I had satisfied the examiners in the Tripos. This is pleasing. I may now borrow ten books from the Cambridge University Library and walk in the Honorary Degrees procession according to the order fixed there by the qualifying degree and the date of its award. I am deemed to be as much a member of the University of Cambridge for life as I am a lifelong member of the University of Oxford.

A Cambridge graduate may incorporate in a similar way in Oxford. The governing statutes are different.¹ In Oxford the governing Statute is X,5. Council Regulations 22 of 2002, updated many times, lengthily embody both the requirements developed in the history of this provision (on which more in a moment), and the peculiar difficulties created by the multiplication of postgraduate awards in recent years, for an exact equivalence and comparability has always had to be established before a Cambridge degree might also become an Oxford degree.² In Cambridge the governing Statute is B,II,2. Cambridge Ordinances, Chapter II, give far less detail about the eligible counterpart degrees, but stipulate holding a qualifying office in the University or a college, held for at least three years, as well as a requirement to satisfy the Council.

The problems posed in setting the level of new degrees were nicely illustrated in a Discussion of a *Cambridge Report* of 1999 on the establishment of a degree of Doctor of Veterinary Medicine. Was the University ‘embarking on a whole new family of degrees which are Ph.D.s by other names’ asked a speaker? For another it was the proposal to ‘violate our traditions with respect to doctoral dress by including buttons with doctor’s lace’ which was beyond ‘comprehension’. The acceptability of the cherry-coloured silk of an MPhil threatened more confusion about the level of this new degree. One foresaw problems with future incorporations.³

* * *

All this matters because those awarded by incorporation are recognised by Oxford and Cambridge to be real degrees. They certainly multiply the letters after one’s name. It all began as an assertion of the autonomy of the first *universitates* as corporations. The two English universities wanted to protect themselves from would-be students and lecturers just turning up and joining in, as had been possible in the twelfth century experiments in higher education which preceded the establishment of the first universities. John of Salisbury (c.1120-1180) describes in frank commentary in his *Policraticus* how he spent as many as twelve years lecture-tasting in the schools at Paris and Chartres before becoming an ecclesiastical civil servant and eventually a bishop. Gilbert of Poitiers, he noted, added incomprehensibility to the texts he lectured on.

In early Oxford would-be students simply arrived and applied to a Regent Master, who would place them on his Register in return for a fee. This was the origin of matriculation, the ‘registering’ which admitted the student to the beginning of a process that could lead to his ultimate full incorporated membership of the *universitas* or guild when he incepted as a Master of Arts. Matriculation now confers ‘student’ membership of the University,⁴ with something of the dual legacy of ‘mother’ and ‘register’ perhaps lingering from the Latin *matrix*.

The matriculation of these early students had a practical importance. Scholars, provided their names were on the *matricula* (Register) of a Regent Master, had immunity from the jurisdiction of the secular courts.⁵ Those unregistered could be imprisoned by the local Sheriff, under privileges granted by Henry III in 1231.⁶ The provision *De immunitate scolarium* warned that someone who had not two weeks *post ingressum universitatis* had his name entered in *matricula sui magistri* could be imprisoned *iuxta domini regis libertatum*. But only those scholars who went to lectures at least three times a week enjoyed this immunity – (assuming the Master actually lectured on three days).⁷

Matriculation thus granted privileges to the University’s insiders which were denied to outsiders. However, ‘wandering scholars’ did not lose a taste for moving to try new ‘schools’ when universities were invented. Those with degrees obtained elsewhere were among those arriving in Oxford wishing to teach there. There was indignation among Oxford’s own graduates in the early sixteenth century against outsiders found amongst them (*unde non parve exorte sunt indignationes inter dictos incorporatos et nostre universitate graduatos*). It was strongly felt that if outsiders were to enjoy the University’s privileges they would have to become its members. Moreover the Oxford graduates wanted incorporation to be allowed only for a ‘distinguished’ graduate from elsewhere (*insignitus in alia universitate*) and the setting of limits on the right to vote in the elections of the Chancellor and Proctors.⁸

There was further stipulation later in the century as to whose graduates might be incorporated so as to enjoy Oxford’s liberties.⁹ Cambridge, yes – but there could be no incorporation of graduates in *aliis universitatibus*. The incorporated graduate from Cambridge did not transfer himself exclusively to Oxford so as to become solely an Oxford man. The oath to be taken by the Cambridge graduate being incorporated to obey Oxford statutes did not require him to reject those of Cambridge in doing so, for he remained a Cambridge graduate.¹⁰

In 1576 a dispute arose as to whether graduates from elsewhere (*qui in aliis academiis adepti sunt aliquos gradus*) should be incorporated to the equivalent level and standing in Oxford (*eisdem habeatur loco et statu quibus in aliqua alia forinseca universitate gaudebat*). The resulting decree was intended to hold until the counterpart rules for Oxford graduates seeking incorporation in Cambridge were satisfactorily resolved.¹¹ The long-term result has been that incorporation grants the equivalent

degree or degrees not merely membership, with the matriculation necessary for graduation included.

But a graduate for incorporation might have held his degrees elsewhere for many years. In 1594 it was settled that Cambridge graduates being incorporated would count as junior in date of graduation to others with the same degree got in the normal Oxford way.¹² That matters because dating remains a marker of 'academic precedence and standing' in both universities. For Oxford:

*'Within each degree the order shall be determined by the date on which the holder was admitted to the degree, and in the case of persons admitted on the same day, by the alphabetical order of their names.'*¹³

In Cambridge a detailed list obeying the dating rule is provided to assist those walking in procession to determine their position in the order with due accuracy. There is sometimes a little elbowing to get that right as the procession forms.

The incorporated degrees did not (and do not) come free. From 1601-2 there survives a detailed list of fees to be paid in connection with incorporations in Oxford, running to half a dozen items for different degrees, such as a fee for a scribe and a fee for a record of matriculation.¹⁴ The current Oxford Regulations require the payment of only a single fee for incorporation (the one for the highest of them) if one has more than one degree to be incorporated. Cambridge charges a flat fee of £5.¹⁵

When Oxford's Laudian Statutes came into force there were further matters to be considered. In 1639, 'in consequence of the new Statutes of the University of Oxford, many non-resident bachelors of arts of Oxford took the degree of master of arts in this University [Cambridge], not being qualified for that degree at Oxford.' This was apparently happening because of Oxford's post BA residence requirement, which was not the same for those who wished to proceed to MA in Cambridge. Cambridge and its colleges had been happy to oblige, being glad of the fees.

When Laud learned about this he wrote to the Oxford Vice-Chancellor in his capacity as Chancellor to say he thought this 'a very great prejudice to the University' of Oxford' and asked, him to write to Cambridge's Vice-Chancellor to ask him not to allow this without getting the consent of Oxford in each case. Cambridge's Vice-Chancellor replied that he would be glad to cooperate in the interest of maintaining good relations between the universities.¹⁶

The practice of incorporation has never been a free-for-all. In both universities it has required not only the candidate's compliance with various requirements but also individual permission from college or Council. In the Cambridge Ordinances of 1885 a Grace is required just as it is for the grant of any Cambridge degree:

'Incorporation of degrees: admission by incorporation to the same degrees as those which his own University have conferred upon him, if such admission be approved by a special Grace of which three days' notice shall have been given.'

The graduate must satisfy the Council by 'not by having passed the Examinations and performed the exercises as required, but by having kept his Terms by residence at his own University'. He must also have:

*'resided during the greater part of one Term at the least at Cambridge, such residence to be certified under the hand and seal of the Master of his College, or of the Chairman of the Unattached Students Board, or in default thereof be holding some office either in the University or in one of the Colleges'.*¹⁷

A fair number of Oxford and Cambridge graduates still enjoy the privileges of both universities, for both universities continue to choose to exercise their ancient inherent degree-awarding powers in this way. Incorporation remains a strong statement of the importance of membership of the civil corporations Oxford and Cambridge that still applies. This profound meaning of their matriculation may not always be made as clear to modern freshers as it should be, which seems a pity. But the doubling of one's degrees is something else, still perhaps carrying a hint of doubt about the recognition of 'other' degrees. Cambridge has now slightly eased its requirements about the wearing of the gowns of other universities, but although one may take tea in some other gown at the Garden Party, Oxford insists still on the wearing of Oxford gowns for the formal procedures of Encaenia.

¹ Both Oxford and Cambridge for historical reasons grant incorporation to other graduates but only those of Dublin.

² <https://governance.admin.ox.ac.uk/legislation/council-regulations-22-of-2002#collapse1426561>

³ <https://www.admin.cam.ac.uk/reporter/1998-99/weekly/5782/16.html>

⁴ Oxford Statute II,1,I, Cambridge Statute B,I,i.

⁵ M. B. Hackett, *The original statutes of Cambridge University: the text and its history* (Cambridge, 1970), pp.25-6.

⁶ M. B. Hackett, *The original statutes of Cambridge University: the text and its history* (Cambridge, 1970), pp.25-6.

⁷ M. B. Hackett, *The original statutes of Cambridge University: the text and its history* (Cambridge, 1970), p.210.

⁸ March 13, 1513, *Statuta Antiqua*, ed. Strickland Gibson (Oxford, 1931), p.332-3.

⁹ *Nullo modo provisum est de modo incorporandi graduatos in aliis universitatibus.*

¹⁰ *Ad observandum statuta, privilegia, consuetudines, et libertates istius universitatis; quatenus statutis et libertatibus universitatis tuae Cantabrigiensis non repugnat*

¹¹ October 25 1576, *Statuta Antiqua*, ed. Strickland Gibson (Oxford, 1931), p.411.

¹² July 9, 1594, *Statuta Antiqua*, ed. Strickland Gibson (Oxford, 1931), p.452.

¹³ <https://governance.admin.ox.ac.uk/legislation/council-regulations-22-of-2002#collapse1426561>.

¹⁴ October 25 1576, *Statuta Antiqua*, ed. Strickland Gibson (Oxford, 1931), p.476.

¹⁵ Cambridge University, *Statutes and Ordinances* (2020), p.148.

¹⁶ Charles Henry Cooper, *Annals of Cambridge* (Cambridge: Cambridge University Press, 1852-1908), 5 vols., Vol. III, pp.292-3.

¹⁷ *Ordinances of the University of Cambridge* (Cambridge, 1885), p.131.

REVIEWS

Trust the rust?

John Darlington, *Fake Heritage: Why We Rebuild Monuments* (Yale University Press, 2020).



In Max Beerbohm's *Zuleika Dobson* (1911) the Emperors in front of the Sheldonian Theatre preside over the action of the novel with 'steadfast eyes':

'Here in Oxford, exposed eternally and inexorably to heat and frost, to the four winds that lash them and the rains that wear them away, they are expiating, in effigy, the abominations of their pride and cruelty and lust. Who were lechers, they are without bodies; who were tyrants, they are crowned never but with crowns of snow; who made themselves even with the gods, they are by American visitors frequently mistaken for the Twelve Apostles.'

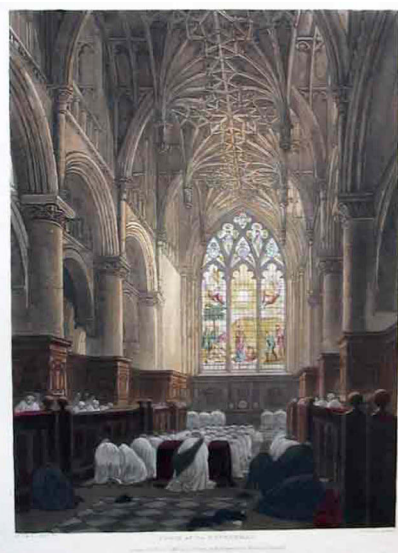
They had been installed in 1868, replacing the originals of 1662-83, but by 1970 they were so decayed that they had to be replaced yet again, sculpted by Michael Black (who died in February 2019). When *Zuleika* first drives in a landau past them someone sees 'great beads of perspiration glistening on the brows of those Emperors'. Here is the end of chapter 18 where the Duke of Dorset is on his way to commit suicide in the Isis:

'Stone, too, the Emperors over the way; and the more poignantly thereby was the Duke a sight to anguish them, being the very incarnation of what themselves had erst been, or tried to be.'

Reading this makes one want to go on an aesthetic pilgrimage to see the Emperors, and perhaps pass 'under the little arch between the eighth and ninth Emperor' in front of the Sheldonian. Alas, this is only imperfectly possible, because the Emperors which Beerbohm saw are no longer there. It's a pity they weren't kept together; they were scattered around, and some survive in gardens. A couple were on view in the Weston Library in the Bodleian in 2011.

And it is like this all over Oxford; the sooty facades of the nineteenth and early twentieth centuries, victims of Shakespeare's 'sluttish time', have been cleaned and restored to within an inch of their lives. Sometimes one has the impression that one is looking at their scraped surfaces almost through the eyes of the original builders, when they were spanking new.

One reads the chapter 'Christ Church Choir' in Ruskin's autobiography *Praeterita* and is inspired to visit the scene. One will be disappointed. It is completely unlike Ackerman's view.



Ackerman. View of Christ Church Choir (1814)

The stalls in the choir were ripped out and packed off to St. Peter's Church, Cassington, and the perpendicular window in the Ackerman print was replaced with a fake rose-window by George Gilbert Scott in 1853, on evidence 'far from conclusive' (Pevsner).



Christ Church Choir

I think it's fair to call this a fake, because the architect couldn't have had any real idea of what the original looked like.



St Peter's Cassington. Choir Stalls from Oxford Cathedral.

The only way one can visit Ruskin's undergraduate scene is in the private virtual gallery of one's mind.

The principal dreaming spire in Oxford is of St Mary the Virgin, and yet it was heftily restored by George Gilbert Scott and Thomas Graham Jackson. The Virgin herself in her pristine porch, shot at by Parliamentary troops, is an immaculate replica. Is Oxford thereby compromised? Are we the sorry inhabitants of one vast fake? Not altogether, and very few of us worry about it.

To cross the Atlantic: you might want, after reading the Emerson poem 'Concord Hymn' (1837), to go and see 'the rude bridge that arched the flood' where the shot was fired 'heard round the world.'—but the bridge has often been rebuilt. In one of its many manifestations it was even made of concrete. The poem itself alerts us to mutability: 'And Time the ruined bridge has swept/ Down the dark stream which seaward creeps.' The poem itself tells one that pilgrimage will be largely futile.

None of the above is in *Fake Heritage*, but Darlington is dealing with closely related matters. This is not to criticize, but to suggest that it is a very large subject. As I started reading I wondered how long it would be before *The Ship of Theseus* surfaced. It never does, although a related arcane specialised term *anastylosis* does (not in my *OED* but *Google* will put you right). This ship poses a central philosophical problem concerning identity. If the ship which returned bearing the Golden Fleece were valued, so that as each plank deteriorated it were carefully conserved, would it be possible to regard the whole lot reassembled as the real ship, and its half-twin as some kind of fake? The conundrum was explored by writers such as Plutarch and Hobbes and modern intellectuals revisit it.

I think the controversy starts to get more problematical with buildings. You could, in theory, keep every stone and beam removed from a decaying building, and reassemble it. It would, in a sense, be the real

building, but in my view the key thing is that it would not occupy the original site: that would be occupied by its replacement, where life would go on, and where it occupies would continue to regard it as the real place. To consider paintings for a moment: one objection to fakes, however perfect and indistinguishable from authentic works, is that we are not present at the *sites* where the true artist wrestled with the challenges of creation.

Darlington is in a good position to write this book; he is Executive Director of World Monuments Fund Britain, so it is an issue which must be at the forefront of his consciousness every day of the week. It is a good read, nicely illustrated and is timely, given the controversies about statues and the vexed ownership of the past. He treads carefully around the issues of fakery, reproduction, restoration, recreation, adaptation, etc. The global perspective is in view, with examples from Europe, China, Japan, the Middle East and The United States.

He is impatient, as experts usually are, with the carelessness and ignorance of the hoi polloi. The tourists don't look at the painting in Lascaux; they gawp at them. They don't disembark from the gargantuan cruise ships in Venice; they shuffle down the gang-planks. Incidentally, a correspondent in *The Daily Telegraph* refers to motorists on the A303 slowing down to gawp at Stonehenge rather than look at it (16 November). Darlington is critical of those in power who exploit history and its remains for various purposes, and of the conditions of popular culture. Research requiring patience and a long time frame, combined with results that are often nebulous, complex or nuanced, is less suited to the instant gratification and shouted headlines of today's digital world, and more expensive. He writes that popularity can 'help authenticate, accelerate and perpetuate a lie'

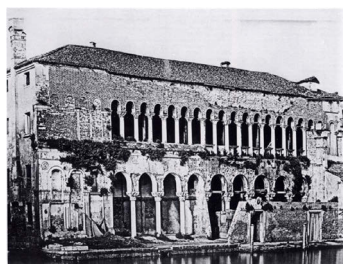
We are heirs to large extent of attitudes thrashed out in the Victorian period when the Society for the Protection of Ancient Buildings came into being under the aegis of Ruskin and Morris. This was when 'restoration' was doing considerable damage, and Ruskin's opposition was often expressed, as in this letter to Count Alvisse Zorzi bemoaning the depredations in Venice:

'We came to Venice to see that St. Mark's whose pillars had trembled with Crusaders' shouts, seven hundred years ago. We came to bow ourselves beneath the vaults where Barbarossa bowed; and we find them squalid with neglect, and shattered by the rudest hands. We came to kneel on the pavement where the Doge Selvo walked barefoot to receive his crown; and find it torn up to be replaced by the vile advertisement of a mosaic manufactory!' (Printed in Osservazioni intorno ai restauri interni ed esterni della Basilica di San Marco (1877), and reprinted in Igdrasil (May 1890)).

Darlington writes: 'Venice may be a Renaissance city, but it is also an unheralded marvel of nineteenth- and twentieth-century conservation and rebuilding.' A horrible marvel though in some cases; one of the most brutally unsympathetic restorations ever undertaken in Europe was of the Fondaco dei Turchi on the Grand Canal.



The Fondaco dei Turchi after restoration. Photograph by Carlo Naya.



The Fondaco dei Turchi before restoration. Photograph by Carlo Naya. The little balcony Ruskin sketched can be seen top right.

Before it was given its going-over Ruskin recorded a picturesque fragment in a beautiful water-colour.



Ruskin. The Fondaco dei Turchi (1845)

Darlington does not quote Henry James, who, visiting the heavily restored Carcassonne, puts the case very well:

'In places, as you stand upon it, the great towered and embattled enceinte produces an illusion; it looks as if it were still equipped and defended. One vivid challenge, at any rate, it flings down before you; it calls upon you to make up your mind on the matter of restoration. For myself, I have no hesitation; I prefer in every case the ruined, however ruined, to the reconstructed, however splendid. What is left is more precious than what is added: the one is history, the other is fiction; and I like the former the better of the two, - it is so much more romantic. One is positive, so far as it goes; the other fills up the void with things more dead than the void itself, inasmuch as they have never had life. After that I am free to say that the restoration of Carcassonne is a splendid achievement.' (A Little Tour in France (1884)

James was also critical of the restorations at Blois. He notes the 'chiselled cylinder' staircase, 'plausibly, but I believe not religiously, restored.' - imitated in Hertford College by T.G. Jackson incidentally, but his version is anti-clockwise.



T.G. Jackson Staircase. Hertford College (1887-89). 'Bastard child of Blois' Pevsner calls it.

Ruskin has a nice sketch of the Blois staircase in its pre-restored state, drawn before he got determinedly doctrinaire about his architecture.



Ruskin. Spiral Staircase Château de Blois in its pre-restored state (1840). Ruskin's father: 'Prout would give his ears to make such a drawing as that.'

Inside the Château James was critical: 'it will easily strike you as overdone. The universal freshness is a discord, a false note; it seems to light up the dusky past with an unnatural glare.'

Darlington discusses ongoing controversies. A major problem is what to do about Notre Dame in Paris, heavily damaged by fire on 15 April 2019, especially the spire. Restore it? Yes, but the spire destroyed was nineteenth-century, and even had a sculpture of the architect Viollet-le-Duc on it - fortunately removed before the fire for restoration.



Viollet le Duc on the spire of Notre Dame.

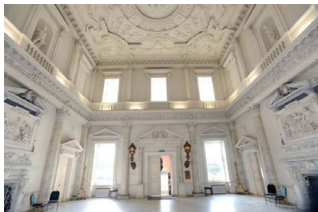


Bronze statues from the spire of Nôtre Dame, Paris. Viollet-le-Duc is on the far left, his head on the pallet.

My view would be to restore it in its nineteenth-century form, rather than install some naff would-be cutting-edge effort in glass or aluminium. There was a heart-stopping programme on the fire on BBC Four (16 November). The north tower was within fifteen minutes of being destroyed, and only saved by the extraordinary heroism of the firemen.

Rennie Mackintosh's Glasgow School of Art has twice been ruined recently by fire. There have been antagonistic voices on the appropriate response, such as Stephen Bayley who writes that a perfect restoration 'would be like exhuming a corpse and mummifying it.' It's not surprising that he should say this, given his article (*The Daily Telegraph*, September 2015) in which he proposes that some large houses should not be conserved, such as W.E. Nesfield's Kimmel Hall, 'the Welsh Versailles'.

There is a section on sites used in costume-drama films. It would be worth mentioning Clandon Park, sadly destroyed by fire in 2015. It was used for filming *The Duchess* (2008), and one has a pathetic and tantalising glimpse of the interior of the pristine house, even though in a fiction.

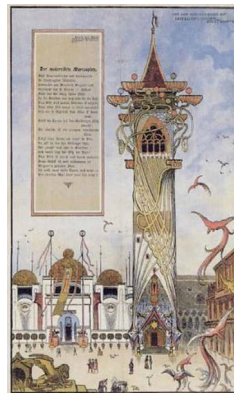


The Marble Hall, Clandon Park—before the fire.



A scene from *The Duchess* (2008) filmed in the Marble Hall, Clandon Park.

A debate occurred when the campanile is St Mark's in Venice collapsed in 1902, and there were extremists who envisioned something entirely different, including an art-nouveau monstrosity. Posterity would not have forgiven them. It must be one of the most elaborate pieces of 'restoration' in history.



A satirical cartoon by Friedrich Graetz (1842-1912) showing the tower reconstructed in the style of the Viennese art nouveau architect Otto Koloman Wagner (1841-1918). He objected to the modern copy of the collapsed building.

And what to do about the destroyed minaret of the Great Mosque of al-Nuri in Mosul with its leaning tower? If rebuilt should it keep its inclination? Darlington says that 'this seems perverse'. Doesn't seem that perverse to me. This was a victim of opposed factions within Islam: Shiite and Sunni. Religious wars also destroyed the Bamiyan Buddhas in 2011. Should they be restored? If they were to be restored one could never look at them in the same way as one looked at the originals.

Darlington makes an interesting observation about wooden shrines in Japan, rebuilt often, but without their identity being compromised, since the authenticity resides in the spirit of the worshippers, transmitted from generation to generation. With buildings the question of fakery comes up less often, because there is less tendency to deceive than in producing small portable objects. No one is going to be deceived by the fifty copies of that monstrously horrible structure the Eiffel Tower since they are, after all, not in Paris. Incidentally we do not see the original tower when we visit, since it has often been conserved and repaired. It's the Ship of Theseus syndrome again. There is a leaning tower of Pisa in Niles, Illinois.

Sometimes reconstructions can be revealing. In 1976 I visited Louisbourg in Nova Scotia, which Darlington studies. The French town and fort guarding the St. Lawrence River was demolished by Byron's grandfather 'Foul-weather Jack' in 1760. When the mining industry collapsed in the province an adventurous and imaginative scheme was implemented to give the skilled unemployed something to do, so they rebuilt it. When one visits the site one has the curious sensation of experiencing an eighteenth-century building as the contemporaries did—as something new, not overlaid with the patina and associations of age. The illusion is helped along by the fact that all the functionaries are in eighteenth-century costume. I had a similar experience in 1965 in Colonial Williamsburg.

I also visited *The Bounty* in Fall River,

Massachusetts, built for the film (1962). It was supposed to be burnt, which is what happened to it in real history. But the film crew couldn't bear to do it. It's nice to stand on the deck of an eighteenth-century ship that is almost genuine, although a flick of the fingernail against the armaments revealed that they were uncanonical fibre-glass. Alas it was lost in a storm in 2012. With loss of life too.

I was glad that Darlington gave space to some curious cases such as 23–24 Leinster Terrace, West London and others, where fake facades hide non-domestic functional features, such as air-vents and electricity sub-stations. We are getting close to irony here, and the whole business of fakes. Space is devoted to some spectacular fakes, such as the Cardiff Giant in the States, and in our time the Damien Hirst exhibition *Treasures from the Wreck of the Unbelievable* in Venice in 2017. Many have found this a highly irritating and expensive hoax. The road-way of The Tower Bridge in Suzhou does not actually go up, which many must regard as a swizz. The gaily coloured gondolas in Hangzhou violate sumptuary laws.

Often replicas bring to life what previously only existed in the imaginary world, and should perhaps remain there. The process is known as Disneyfication. Hence the Swiss Family Robinson tree-house in Disneyland—although it has since been re-imagineered, as a concession to mass ignorance, as Tarzan's Treehouse. There was a Robinson tree house in Belle Epoque Paris as a restaurant and amusement venue. It's mentioned by Proust in *A La Recherche du Temps Perdu*. The slide there administered to the pervasive infantilism which remains a feature even of advanced cultures.



Pervasive infantilism at the Robinson complex in Paris.

The questions about authenticity and retrieval continue in the other arts, in literature and music. Division and discord has broken out in the ancient music revival, what the late Jonathan Miller used to call 'ancient mules'. And controversy extends

to the natural world. As I write I hear news of a £40 million government grant for the conservation of the natural environment. A drop in the ocean. Should the Lake District be turned back to what it was? What Louis MacNeice called 'the bare and high places of England' ('An Eclogue for Christmas') have been created by sheep-grazing, and, in a sense, aren't natural at all. The Ruskin Reserve at Cothill near Abingdon, given to the Ashmolean Natural History Society by

Henry Willett, was originally set up so that it 'should be kept for all time in its natural condition'. Yes, but the 'keeping' requires decisive human agency.

This is such a vast subject that there are bound to be omissions. Aspects have been treated by Nicola Watson in *The Author's Effects* (2020), in some cases more subtly. The bibliography should contain, for instance, Robert Hewison, *The Heritage Industry* (1987), Roy Strong and others, *The*

Destruction of the Country House (1974), David Lowenthal, *The Past is a Foreign Country* (1985), Gavin Stamp, *Lost Victorian Britain* (2010), Jonathan Glancey, *Lost Buildings* (2008) and Patrick Wright, *On Living in an Old Country* (1985). Simon Thurley's *Men from the Ministry: How Britain Saved the Heritage* (2013) is not in the bibliography.

BERNARD RICHARDS

Early Career Researchers

Sir – Out of long-term interest arising from case-work in several universities, I would have been glad to see the slides provided for the Town Hall Meeting for Research Staff held on 9 November. However they and the recording of the meeting are behind SSO. This meeting was held in the context of the University's need to decide whether to sign the latest version of the *Concordat to Support the Career Development of Researchers*. Cambridge is listed among the signatories but Oxford not yet.¹ Why the apparent secrecy about its attempt to review its position?

It has been recognised for several decades that early career researchers, not only in Oxford, face an uphill struggle to pursue a full academic career. An Employment Tribunal judgment in Scotland in 2008, *Dr A Ball vs. University of Aberdeen*,² held at (90-9) that the practice at Aberdeen was in breach of the Fixed Term Employees (Prevention of less Favourable Treatment) Regulations 2002, 8(2)(b).³ These Regulations at 8(1)(b) sought to protect employees in the situation in which many short-term contract research scientists still find themselves:

*'The tribunal found that employment on fixed-term contracts gave rise to genuine disadvantage to the employee, particularly around the uncertainty of future employment, damage to career progression and professional development, and potential difficulties in obtaining credit.'*⁴

TO THE EDITOR

Universities including Oxford continue successfully to cite the ending of external funding as justification for dismissal of scientists on fixed-term contracts.⁵ Indeed HR devotes many web pages to the procedure to be applied to protect the University from litigation when terminating such contracts, including specific points to be considered in the case of serial contracts.⁶

It is time this problem was boldly addressed in a University currently wasting so many of its able scientists. The presumption ought to be in favour of a permanent contract for those on serial fixed-term contracts. Can the University really show that it cannot afford it?

¹ <https://www.vitae.ac.uk/policy/concordat/signatories>.

² Employment Tribunals (Scotland) *Dr. A Ball vs. University of Aberdeen* 2008 Case no. S/101486/08, citing *Del Cerro Alonso vs. Osakidetza-Servicio Vaso de Salud* [1997] ILR 911 para.58), mentioned again more recently in an employment tribunal judgment in February 2017 (*Bellavia v. University of Birmingham*, Case Number 1300540/2016).

³ <http://www.legislation.gov.uk/uk/si/2002/2034/contents/made>.

⁴ <https://www.ucu.org.uk/article/3340/UCU-wins-landmark-fixed-term-employment-trib>.

⁵ For example, Oxford University's established procedure for the ending of fixed-term contracts, http://www.admin.ox.ac.uk/media/global/wwwadminoxacuk/local/sites/personnel/documents/endingemployment/redundancyprocedure/PDF2_End_of_fixed_term_contract_procedure.pdf.

⁶ <https://hr.admin.ox.ac.uk/fixed-term-contracts-as-end-date-approaches-2-or-more-years-service#collapse1494901>.

Yours sincerely

G.R. EVANS

Oxford

The editors invite and welcome contributions from all our readers. The content of *Oxford Magazine* relies largely on what arrives spontaneously on the editors' desk and is usually published as received.

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